1979 Annual Report
Aluminum Company of America
1501 Alcoa Building, Pittsburgh, Pa. 15219

ALCOA

# 1979 Annual Report

# Aluminum Company Of America

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Aluminum Company of America is the world's leading producer of aluminum products. The company was founded in 1888 to commercialize Charles Martin Hall's discovery of the first economical method for producing aluminum.

Doing business worldwide, Alcoa today has $4.7 billion in assets, about 47,000 employees, 31,000 shareholders, 53 operating locations and over 100 sales offices.

Alcoa's principal operations are mining and processing bauxite, refining alumina from bauxite, smelting aluminum from alumina, processing aluminum and aluminum alloys into mill products and finished products, and recycling used aluminum products.

The company's operations also include shipping, manufacturing products from other metals, producing a full line of alumina chemicals, licensing of technology, and selling engineering and construction services. Subsidiaries of the company participate in urban real estate and land development projects.

Alcoa generates almost half of the electrical energy needed for its smelting operations in the United States, using coal, lignite, natural gas and hydro power.

Primary uses for the company's aluminum products are in the packaging and containers, transportation, electrical, building and construction, consumer durables, and machinery and equipment industries.

As the leading producer of aluminum products, Alcoa has built the largest and most productive light metals research and engineering organization in the world. Its research activities are headquartered at the Alcoa Technical Center, near Pittsburgh, Pa., where the company's main office is located.

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# Directors and Officers

(as of February 21, 1980)

## Officers

W. H. Krome George, *Chairman of the Board and Chief Executive Officer*

Alfred M. Hunt, *Vice President and Secretary*

Frank P. Jones, Jr., *Vice President-Government Affairs*

William H. Shepard, *Vice President-Public Relations and Advertising*

R. Arnold Kramer, *Executive Vice President and General Counsel*

James S. Pasman, Jr., *Executive Vice President-Finance*

Harry M. Goern, *Vice President-Corporate Planning*

C. E. Pfeifer, Jr., *Treasurer*

James W. Wirth, *Vice President and Controller*

William B. Renner, *President*

Jack G. Morber, *Vice President-Industrial Relations*

Bertram D. Dinman, *Vice President-Health and Safety*

Allen S. Russell, *Vice President-Science and Technology*

Robert G. Hampel, *Vice President-Technical Development*

Allen C. Sheldon, *Vice President-Energy Resources*

Joseph C. Bates, *Executive Vice President-International*

George T. Haymaker, Jr., *Vice President; Managing Director, Alcoa of Australia Limited*

Marvin E. Gantz, Jr., *Executive Vice President-Mill Products*

Ronald R. Hoffman, *Vice President-Flat Rolled Products*

Torrence M. Hunt, *Vice President-Customer Development*

Robert C. Hatfield, *Executive Vice President-Engineering, Procurement, Construction and Transportation*

Richard P. Baribault, *Vice President-Procurement*

L. L. Corbin, *Vice President-Engineering*

Harry F. Robey, Jr., *Vice President-Construction*

Frederick C. Irving, Jr., *Executive Vice President-Allied Products*

O. M. Mader, *Vice President-Consumer Group, Allied Products*

R. Banks Smith, *Vice President-Industrial Group, Allied Products*

Charles W. Parry, *Executive Vice President-Primary Products*

C. Fred. Fetterolf, *Vice President-Operations, Primary Products*

S. Alfred Jones, *Vice President-Primary Metals*

A. B. Kaltwasser, *Vice President-Operating, Alumina*

J. E. Yates, *Vice President-Operating, Raw Materials*

## Assistant Officers

*Assistant Controllers*
Robert D. Buchanan
John H. Lersch
Edgar C. Lighthiser

*Assistant General Counsels*
Richard L. Fischer
Joseph P. Fisher
R. L. Holz

*Patent Counsel*
Robert T. Teeter
*Tax Counsel*
Albert E. Germain
*Assistant Secretary*
Harold E. Meeks

*Assistant Treasurers*
W. L. Ferguson
Jan H. M. Hommen
Joseph C. Pellegrino
George E. Stanley

## Directors

E. D. Brockett, 1970*, *formerly Chairman of the Board, Gulf Oil Corporation*

W. H. Krome George, 1967†

Alan Greenspan, 1978, *Chairman and President, Townsend-Greenspan & Co., Inc., an economic consulting firm*

John D. Harper, 1962†, *Director of various companies; formerly Chairman of the Board, Aluminum Company of America*

Alfred M. Hunt, 1949

R. Arnold Kramer, 1974

Ralph Landau, 1977, *Chairman and Chief Executive Officer, Halcon International, Inc., a chemical process research and development company*

John A. Mayer, 1967†, *formerly Chairman of the Board, Mellon National Corporation and Mellon Bank, N.A.*

Paul L. Miller, 1965†‡, *Senior Advisor, The First Boston Corporation, an investment banking firm*

Nathan W. Pearson, 1969†‡, *Financial Advisor, Paul Mellon Family Interests*

William B. Renner, 1975†

Franklin A. Thomas, 1977‡, *President, The Ford Foundation*

*Date following the name indicates the year first elected director

†Member of the Executive Committee

‡Member of the Audit Committee


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# Corporate Data

## Operating locations

Principal activities at Alcoa, subsidiary and affiliate operations:

**Raw materials**

**Fuels**
Australia: *Geelong (brown coal)*
United States: *Evansville, Ind. (coal); Point Comfort, Tex. (oil and gas); Rockdale, Tex. (lignite)*

**Bauxite**
Australia: *Jarrahdale; Del Park; Huntly*
Brazil: *Poços de Caldas*
Dominican Republic: *Cabo Rojo*
Jamaica: *Clarendon Parish*
Republic of Guinea: *Boké region*
Suriname: *Moengo; Paranam*
United States: *Bauxite, Ark.*

**Other minerals**
Italy: *Sardinia (fluorspar)*
United States: *Addy, Wash. (dolomite and quartzite)*

**Alumina and chemical products**
Australia: *Kwinana; Pinjarra*
Brazil: *Poços de Caldas*
Jamaica: *Clarendon Parish*
Japan: *Iwakuni*
Suriname: *Paranam*
The Netherlands: *Rotterdam*
United States: *Mobile, Ala.; Bauxite, Ark.; Fort Meade, Fla.; Point Comfort, Tex.*

**Primary aluminum products**
Australia: *Geelong*
Brazil: *Poços de Caldas*
Mexico: *Veracruz*
Norway: *Lista; Mosjöen*
Suriname: *Paranam*
United Kingdom: *Aylesbury (secondary)*
United States: *Evansville, Ind.; Massena, N.Y.; Badin, N.C.; Alcoa, Tenn.; Palestine, Point Comfort, Rockdale, Tex.; Vancouver, Wenatchee, Wash.*

**Mill and finished products**
Australia: *Geelong*
France: *Châteauroux*
Japan: *Nikko, Oyama, Shiga, Tokyo*
Mexico: *Mexico City*
The Netherlands: *Drunen*
Spain: *Barcelona*
United Kingdom: *Barking, Bridgend, Swansea*
United States: *Corona, Vernon (Los Angeles), Ca.; North Haven, Conn.; Tifton, Ga.; Princeville, Ill.; Evansville, Ft. Wayne, Lafayette, Richmond, Ind.; Davenport, Iowa; Houston, Ripley, Miss.; Massena, Olean, N.Y.; Laurinburg, N.C.; Chillicothe, Cleveland, Sidney, Ohio; Lancaster, Lebanon, Logans Ferry, Pa.; Alcoa, Nashville, Tenn.; Marshall, Rockdale, Tex.; Buena Vista, Va.; Vancouver, Wash.*
West Germany: *Worms am Rhein; Viernheim*

## Other operations

**Power generation**
Australia: *Anglesea*
Suriname: *Brokopondo*
United States: *Evansville, Ind.; Badin, N.C.; Alcoa, Tenn.; Point Comfort, Rockdale, Tex.*

**Magnesium and silicon**
Northwest Alloys, Inc., Addy, Wash.

**Electric utility**
Nantahala Power & Light Company, *Franklin, N.C.*

**Shipping**
Alcoa Steamship Company, Inc., *New York, N.Y.*

## Research and development

Alcoa Laboratories, established in 1918, is the leading light metals research organization in the world.

Most of the company's broad range of research and development teams are gathered at Alcoa Technical Center. Five major buildings form the complex, located near Pittsburgh, Pa.

Alcoa Laboratories also has facilities at Marshall, Tex., Massena, N.Y., New Kensington, Pa., and Richmond, Ind. Rea Magnet Wire Company operates a research laboratory at Ft. Wayne, Ind.

## Real estate operations

Alcoa Properties, Inc. designs, builds, owns and manages commercial and residential property in the U.S. The following are wholly or partially owned:

**Office, residential and commercial**
Allegheny Center, Pittsburgh, Pa.
Century City, Los Angeles, Ca.
Golden Gateway, San Francisco, Ca.

**Hotels**
Century Plaza, Los Angeles, Ca.
Washington Plaza, Seattle, Wash.
William Penn, Pittsburgh, Pa.

**Design and development**
Jonathan's Landing, Inc.
Development of a residential community in Jupiter, Fla.
Century Malibu, Inc.
Residential community development in Malibu, Ca.

## Selected Alcoa products

**For industry**
Architectural products, closures, permanent mold and premium castings, electrical conductor and accessories, extrusions, fasteners, foil, forgings, highway products, ingot, paste, powder and pigments, plate, screw machine products, sheet, tubular products, welding, brazing and soldering products, wire, rod and bar

**Nonaluminum metal products**
Copper wire, titanium, steel and magnesium forgings

**Chemical products**
Aluminas, aluminum chloride, aluminum fluoride, calcium aluminate cement, gallium and gallium compounds

**For the consumer**

**Alcoa building products**
Gutters, downspouts, residential siding, shingles, shutters, soffit, fascia, columns, doors, windows and ventilating products.

**Alcoa household products**
Cutco cutlery and Wear-Ever utensils

## Employment by geographic area

United States 39,200
Other Western Hemisphere 6,600
Other 1,000

## Corporate headquarters

Aluminum Company of America
1501 Alcoa Building, Pittsburgh, Pennsylvania 15219
Office of the Secretary (412) 553-4707
Office of the Treasurer (412) 553-4705
*Shareholder questions should be directed to the Secretary.*

## Location of incorporation.

Aluminum Company of America is incorporated in the Commonwealth of Pennsylvania

## Stock exchange

**AA** is the stock exchange ticker tape symbol for the common and preferred stock of Aluminum Company of America. The common stock is listed on the New York Stock Exchange. The preferred stock is admitted to trading on the American Stock Exchange.

## Stock transfer agents and registrars

Common stock
Pittsburgh: Mellon Bank, N.A.
New York: Morgan Guaranty Trust Co.
Preferred stock
Pittsburgh: Pittsburgh National Bank

## Dividend reinvestment service agent

Common stock only
Pittsburgh: Mellon Bank, N.A.

## Debenture listing

Both sinking fund debentures and 5¼ percent convertible subordinated debentures are listed on the New York Stock Exchange.

## Debenture registrars and trustees

Sinking fund debentures
Pittsburgh: Pittsburgh National Bank
New York: Bankers Trust Company
5¼ percent convertible subordinated debentures
Pittsburgh: Union National Bank
New York: Bankers Trust Company

## Independent auditors

Coopers & Lybrand, Pittsburgh, Pa.

## Trademarks in this annual report

*Alcoa* and the Alcoa corporate mark are registered trademarks of Aluminum Company of America. Wear-Ever is a registered trademark of Wear-Ever Aluminum, Inc. SilverStone is the registered trademark of Dupont.

## Form 10-K

Upon written request, the company will furnish without charge to any Alcoa shareholder a copy of the company's annual report on Form 10-K, including the financial statements and schedules. Requests should be directed to Office of the Treasurer, 1501 Alcoa Building, Pittsburgh, Pa. 15219.

## Annual meeting

The annual meeting of the shareholders of Aluminum Company of America will be held Thursday, April 17, 1980 at 10 a.m. EST in the Urban Room of the William Penn Hotel, Pittsburgh, Pa.

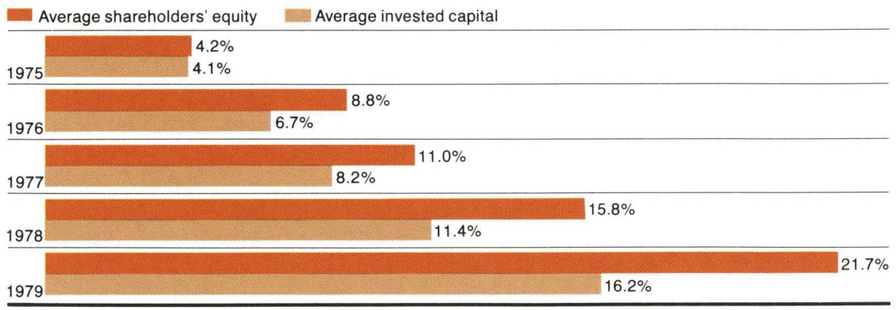


# Financial Highlights

Aluminum Company of America and consolidated subsidiaries — (in millions, except share amounts)

| | 1979 | 1978 |
|---|---|---|
| Total revenues | **$4,847.0** | $4,072.5 |
| Income from operations | **411.5** | 255.5 |
| Equity earnings | **93.1** | 57.2 |
| Net income | **504.6** | 312.7 |
| Earnings per common share | | |
| Primary | **$ 14.29** | $ 8.90 |
| Fully diluted | **13.60** | 8.49 |
| Cash dividends declared and paid per common share | **2.60** | 1.90 |
| Shareholders' equity per common share | **70.03** | 58.39 |
| Capital expenditures | **$ 420.0** | $ 349.8 |
| Primary aluminum production (in 000 tons) | **1,603** | 1,531 |
| Aluminum product shipments (in 000 tons) | **1,886** | 1,779 |
| Debt as a percent of invested capital | **29.1%** | 35.2% |
| Ratio of current assets to current liabilities | **2.01 to 1** | 2.12 to 1 |

**Percent return on invested capital and shareholders' equity**



# To Alcoa Shareholders

W. H. Krome George

The Alcoa strategies employed over the past few years contributed to making 1979 a very good year:

- ☐ Returns of 21.7 percent on shareholders' equity and 16.2 percent on invested capital were at levels that will allow us to grow.
- ☐ The quarterly dividend rate on the common stock was increased twice.
- ☐ Debt was reduced to 29 percent of total invested capital, and our cash position at year-end was excellent.
- ☐ Steps were taken to firm up our raw materials and power supplies.
- ☐ We maintained strong positions in our key markets.
- ☐ Research and engineering accomplishments were significant, especially in energy conservation.

And, of course, these achievements would not have been realized without the diligent efforts of all Alcoa employees.

*Improving the return on invested capital and balancing growth with profitability* are central to all of our strategies. In 1979, improved earnings allowed the Board of Directors to increase the dividend payment per common share to $2.60, up 36.8 percent over 1978. The quarterly dividend was increased again on January 17, 1980, to 80 cents a share from 70 cents. The company has not missed or reduced a quarterly dividend since 1939.

Long-term debt was reduced to 29.1 percent of invested capital at year's end, down from 35.2 percent in 1978. We financed the year's $420 million capital expenditure program without increasing total long-term debt. Capital expenditures in 1980 are planned to be about $630 million.

*One of Alcoa's ongoing strategies is to expand its sources of bauxite* worldwide to assure a continuous, long-term supply.

In 1979, Alcoa of Australia, in which Alcoa has a 51 percent interest, began developing a new mining area and building its third bauxite refinery in Western Australia, at Wagerup. That company also is adding to its smelter at Point Henry, Victoria, and announced that it will build a new smelter at Portland, Victoria, with an ultimate capacity of 600,000 tons a year.

Alcoa and its Brazilian affiliate, Alcominas, began talks with the Brazilian government for rights to build a rolling mill, a second aluminum smelter and a bauxite refinery, using bauxite from the Amazon region.

Expansions were planned that could add 170,000 tons of primary capacity to our U.S. smelters by 1985.

*A similar longstanding strategy* is to generate in our own plants as much as practical of the electrical requirements of our primary aluminum operations. Almost half of our U.S. smelter requirements for power and over 40 percent of Alcoa's worldwide requirements are self-generated.

Work progressed on two major additions to our Texas energy sources. The 545 net megawatt addition to the Rockdale power plant continued on schedule for completion in 1981. The Twin Oak plant, which will serve the Anderson County Works with 375 net megawatts of power, is scheduled to begin production in 1985. The Rockdale unit is owned by Texas Power and Light Company, and the Twin Oak project is jointly owned by Alcoa and the utility.

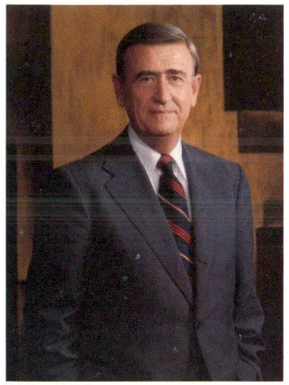


| 1975 | 1974 | 1973 | 1972 | 1971 | 1970 | 1969 | 1964 | 1959 | 1954 |
|---|---|---|---|---|---|---|---|---|---|
| 2,322.8 | 2,749.8 | 2,178.0 | 1,778.7 | 1,461.7 | 1,542.8 | 1,568.8 | 1,044.9 | 865.0 | 713.0 |
| 1,791.1 | 2,013.9 | 1,610.5 | 1,269.8 | 1,011.7 | 1,022.5 | 1,039.4 | 699.1 | 557.4 | 464.4 |
| 188.3 | 184.6 | 166.9 | 154.9 | 149.2 | 148.3 | 144.9 | 123.1 | 107.6 | 67.0 |
| 170.8 | 164.7 | 158.5 | 150.9 | 137.5 | 127.8 | 121.9 | 90.7 | 78.7 | 40.7 |
| 83.3 | 57.9 | 58.2 | 61.4 | 57.8 | 48.6 | 36.9 | 19.4 | 17.0 | 12.2 |
| (6.0) | 121.7 | 52.2 | 42.5 | 24.5 | 66.7 | 87.9 | 35.5 | 35.0 | 57.5 |
| 41.3 | 42.9 | 32.7 | 30.4 | 29.2 | 28.1 | 30.0 | 16.5 | 13.7 | 9.3 |
| 10.8 | 10.5 | 1.3 | 32.1 | 1.1 | 13.5 | 14.6 | (2.9) | — | — |
| **64.8** | **174.6** | **100.3** | **100.9** | **52.9** | **95.5** | **122.4** | **57.7** | **55.6** | **61.9** |
| 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 |
| 45.2 | 44.6 | 43.1 | 39.3 | 38.9 | 38.7 | 38.7 | 26.8 | 25.2 | 16.1 |
| 2.8 | 6.4 | 4.6 | 5.8 | 3.7 | 6.3 | 7.9 | 5.6 | 6.5 | 8.7 |
| 4.2 | 11.9 | 7.3 | 7.8 | 4.2 | 7.8 | 10.6 | 6.8 | 7.8 | 13.4 |
| **4.1** | **8.6** | **5.8** | **6.0** | **3.8** | **5.9** | **7.4** | **5.2** | **5.5** | **8.7** |
| 644.2 | 569.8 | 597.9 | 564.9 | 520.1 | 455.4 | 446.0 | 323.9 | 319.3 | 182.7 |
| 1,927.0 | 1,718.2 | 1,530.2 | 1,495.4 | 1,518.5 | 1,463.6 | 1,299.6 | 941.0 | 872.4 | 640.9 |
| 387.3 | 349.9 | 302.8 | 328.8 | 325.6 | 365.9 | 348.6 | 174.6 | 31.7 | 28.5 |
| 63.8 | 62.6 | 44.1 | 43.4 | 45.9 | 27.3 | 38.9 | 20.2 | 27.8 | 4.3 |
| 1,254.0 | 946.0 | 886.2 | 904.3 | 954.4 | 885.4 | 774.3 | 497.6 | 436.3 | 336.3 |
| 192.9 | 214.3 | 188.2 | 193.2 | 189.5 | 177.8 | 164.3 | 98.5 | 81.9 | 33.8 |
| 1,575.4 | 1,540.2 | 1,400.6 | 1,335.0 | 1,266.2 | 1,249.0 | 1,194.5 | 863.6 | 733.0 | 486.3 |
| 1.85 | 5.18 | 2.97 | 3.01 | 1.56 | 2.88 | 3.72 | 1.72 | 1.69 | 1.99 |
| 1.34 | 1.34 | 1.305 | 1.20 | 1.20 | 1.20 | 1.20 | .83 | .80 | .53 |
| 44.58 | 44.16 | 40.35 | 38.68 | 36.91 | 36.67 | 34.99 | 24.83 | 21.14 | 13.93 |
| 50.250 | 52.625 | 53.67 | 38.17 | 46.67 | 49.33 | 56.00 | 54.875 | 77.125 | 30.625 |
| 27.125 | 25.875 | 31.92 | 25.92 | 24.00 | 31.33 | 42.92 | 39.375 | 51.375 | 19.625 |
| 2,674 | 2,765 | 2,787 | 2,846 | 2,841 | 2,902 | 2,570 | 3,370 | 3,892 | 4,282 |
| 30,913 | 31,712 | 29,069 | 30,601 | 30,835 | 31,975 | 30,729 | 30,136 | 25,355 | 11,625 |
| 33,634 | 33,219 | 32,936 | 32,678 | 32,314 | 32,259 | 32,254 | 32,115 | 31,449 | 29,932 |
| 382.2 | 355.7 | 197.0 | 140.1 | 199.4 | 284.9 | 247.3 | 179.4 | 54.7 | 67.2 |
| 1,243.8 | 1,428.7 | 1,120.9 | 887.8 | 679.9 | 677.2 | 688.4 | 440.8 | 346.5 | 279.4 |
| 818.9 | 827.7 | 714.7 | 598.3 | 538.8 | 542.2 | 532.8 | 400.8 | 335.5 | 264.2 |
| 44,100 | 50,200 | 48,500 | 44,500 | 44,100 | 48,300 | 48,600 | 46,500 | 47,400 | 54,700 |
| 1,257 | 1,585 | 1,497 | 1,284 | 1,322 | 1,343 | 1,266 | 878 | 627 | 666 |
| 1,575 | 1,575 | 1,570 | 1,570 | 1,475 | 1,325 | 1,325 | 858 | 798 | 691 |
| 1,368 | 1,724 | 1,625 | 1,392 | 1,434 | 1,450 | 1,370 | 908 | 627 | 666 |
| 189 | 343 | 442 | 388 | 313 | 381 | 412 | 204 | 130 | 318 |
| 1,340 | 1,963 | 2,034 | 1,651 | 1,326 | 1,493 | 1,577 | 966 | 720 | 750 |
| 1,620 | 1,979 | 1,866 | 1,619 | 1,664 | 1,653 | 1,513 | 994 | 627 | 666 |
| 1,998 | 1,998 | 1,989 | 1,989 | 1,879 | 1,663 | 1,625 | 986 | 798 | 691 |

# Historical Summary

Aluminum Company of America and consolidated subsidiaries

| Year ended December 31 | 1979 | 1978 | 1977 | 1976 |
|---|---|---|---|---|
| **Earnings** (millions of dollars) | | | | |
| Total revenues | **4,847.0** | 4,072.5 | 3,433.1 | 2,943.6 |
| Cost of goods sold and operating expenses | **3,452.9** | 2,976.3 | 2,593.5 | 2,216.7 |
| Selling, general administrative and other expenses | **305.9** | 276.1 | 239.5 | 207.7 |
| Provision for depreciation and depletion | **247.0** | 227.5 | 203.9 | 191.3 |
| Interest expense | **86.1** | 87.8 | 89.8 | 90.9 |
| U.S. and foreign taxes on income (reduction) | **270.2** | 189.0 | 97.4 | 75.0 |
| Other taxes | **73.4** | 60.3 | 52.4 | 43.8 |
| Equity earnings (losses) from entities not consolidated | **93.1** | 57.2 | 38.6 | 25.6 |
| **Net income** | **504.6** | **312.7** | **195.2** | **143.8** |
| Preferred stock dividends declared | **2.5** | 2.5 | 1.9 | 2.5 |
| Common stock dividends declared (Note N) | **91.3** | 66.3 | 46.6 | 47.3 |
| **Percent return on:** | | | | |
| Sales and operating revenues | **10.5** | 7.7 | 5.7 | 4.9 |
| Average shareholders' equity | **21.7** | 15.8 | 11.0 | 8.8 |
| **Average invested capital** | **16.2** | **11.4** | **8.2** | **6.7** |
| **Financial position** (millions of dollars) | | | | |
| Working capital | **859.0** | 735.6 | 667.1 | 581.6 |
| Properties, plants and equipment, net | **2,318.9** | 2,164.6 | 2,029.6 | 1,953.4 |
| Investments | **587.2** | 490.6 | 446.7 | 446.5 |
| Other assets, net | **33.5** | 68.5 | 68.4 | 66.2 |
| Long-term debt (noncurrent) | **1,020.6** | 1,130.0 | 1,166.0 | 1,158.1 |
| Future income taxes and investment credit | **248.9** | 216.3 | 192.7 | 200.5 |
| Shareholders' equity | **2,529.1** | 2,113.0 | 1,853.1 | 1,689.1 |
| **Share data** | | | | |
| Per common share (dollars) (Note J) | | | | |
| Net income | **14.29** | 8.90 | 5.58 | 4.14 |
| Dividends declared (Note N) | **2.60** | 1.90 | 1.35 | 1.385 |
| Equity (based on year-end outstanding shares) | **70.03** | 58.39 | 51.52 | 47.28 |
| Price range | | | | |
| High | **60.50** | 53.00 | 59.50 | 61.25 |
| Low | **46.50** | 38.50 | 40.875 | 38.50 |
| **Number of shareholders** | | | | |
| Preferred | **2,264** | 2,386 | 2,496 | 2,592 |
| Common | **28,587** | 29,405 | 28,751 | 28,451 |
| Average number of common shares outstanding (thousands) | **35,126** | 34,877 | 34,510 | 34,094 |
| **Property, plant and equipment expenditures** (millions of dollars) | **420.0** | 349.8 | 281.7 | 243.7 |
| Cost of materials, services, etc. (millions of dollars) | **2,475.4** | 2,124.9 | 1,852.3 | 1,592.5 |
| **Wages, salaries and employee benefits** (millions of dollars) | **1,369.5** | 1,215.3 | 1,070.5 | 922.8 |
| Average number of employees | **46,800** | 46,000 | 45,200 | 43,300 |
| **Capacity, production and shipments** (thousands of short tons) | | | | |
| Primary aluminum production—United States | **1,543** | 1,470 | 1,376 | 1,280 |
| Primary aluminum capacity—United States | **1,700** | 1,700 | 1,675 | 1,675 |
| Primary aluminum production—consolidated | **1,603** | 1,531 | 1,431 | 1,409 |
| Primary aluminum shipments—consolidated | **301** | 206 | 171 | 231 |
| Total shipments of aluminum products—consolidated | **1,886** | 1,779 | 1,688 | 1,638 |
| Primary aluminum production, worldwide, including affiliates | **2,038** | 1,938 | 1,836 | 1,690 |
| Primary aluminum capacity, worldwide, including affiliates | **2,227** | 2,185 | 2,160 | 2,160 |



William B. Renner

*Alcoa's marketing strategy* emphasizes markets that rely on the strength of our technical and manufacturing expertise and that represent opportunities for above average rates of return. Four of these markets plus our network of independent distributors contributed most significantly to 1979's performance.

Our shipments to the aerospace industry increased significantly, and future bookings are heavy. The market for aluminum beverage cans continued to grow, and Alcoa's shipments of can sheet to this market kept pace. Sales of conductor products and electrical accessories to the worldwide electrical markets increased significantly over 1978. Alumina chemical sales continued to grow around the world.

The total automotive market for aluminum was not as good as we had hoped it would be, although orders for forged wheels exceeded our expectations. We were not seriously affected by the slowdown in the automobile industry because we had not committed large new capacity. We continue to believe that as Detroit designs for greater gas mileage, real growth of aluminum use in cars will occur.

*Alcoa's research and engineering strategy* is to concentrate on cost-effective projects that will keep our company on the forward edge of our industry's technology. About two-thirds of our research projects were focused on improving energy efficiency. We continued to improve the efficiency of the Hall Process for smelting aluminum, which could substantially increase production from existing potlines. We also continued to develop the new Alcoa Smelting Process.

*Fundamental to the success of all these strategies* are intelligent, well trained and highly motivated employees. We restructured our personnel functions to better develop the human resources of the company, and we continued to make progress toward our affirmative action goals. Alcoans in our plants improved their safety performance and contributed to improved productivity.

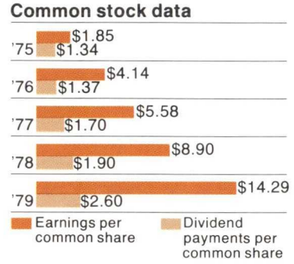
The effects of inflation on our business in 1979 are discussed on pages 28 and 29. We cannot, of course, predict future effects, although we know we must have higher revenues to offset higher costs, particularly for energy and employment costs. Even with these uncertainties Alcoa has the necessary resources to meet the challenges ahead. As you read this 1979 annual report we believe you will share our confidence.

W. H. Krome George
Chairman of the Board
and Chief Executive Officer

William B. Renner
President

February 21, 1980

**Common stock data**



# Operations Review

Alcoa's consolidated sales and operating revenues are derived from two segments of business.

*The Aluminum Processing segment* includes the production and sale of bauxite, alumina and chemical products, molten metal and ingot, and basic mill products. Also included are the power, oil and gas, transportation and other activities that principally serve the operations of this segment.

*The Finished Products and Other segment* includes the production and sale of finished aluminum products such as residential siding, cooking utensils, fasteners and closures. It also includes the licensing of technology, the sale of engineering and construction services, and the production and sale of nonaluminum products such as copper wire products, plastic products, titanium, magnesium and steel forgings, and manufacturing equipment.

**Principal classes of products**

The following table summarizes the distribution of aluminum shipments and revenues for the principal classes of products in Alcoa's consolidated operations. Only the Aluminum Processing segment has classes of products which accounted for as much as 10 percent of the consolidated sales and operating revenues of the company for each year.

| (short tons in thousands; dollars in millions) | 1979 Tons | 1979 Revenues | 1978 Tons | 1978 Revenues | 1977 Tons | 1977 Revenues |
|---|---|---|---|---|---|---|
| Aluminum Processing segment | | | | | | |
| Bauxite, alumina and chemical products | — | $ 432.6 | — | $ 369.2 | — | $ 343.8 |
| Primary aluminum products | 301 | 379.9 | 206 | 229.9 | 171 | 182.8 |
| Flat-rolled products | 1,088 | 2,120.0 | 1,052 | 1,871.9 | 1,021 | 1,536.1 |
| Extruded, rolled and drawn products | 272 | 668.6 | 252 | 527.5 | 258 | 475.8 |
| Other | 151 | 460.2 | 193 | 410.2 | 171 | 333.7 |
| | 1,812 | 4,061.3 | 1,703 | 3,408.7 | 1,621 | 2,872.2 |
| Finished Products and Other segment | 74 | 724.3 | 76 | 643.1 | 67 | 544.3 |
| TOTAL | 1,886 | $4,785.6 | 1,779 | $4,051.8 | 1,688 | $3,416.5 |

**Principal markets**

The following table shows the distribution of consolidated revenues for the principal markets in which the products are sold. The Aluminum Processing segment's aluminum products are generally sold to producers of consumer and industrial products in the four specified markets shown below. The Finished Products and Other segment serves all such markets, no one of which was more than 10 percent of revenues.

| (in millions) | 1979 | 1978 | 1977 |
|---|---|---|---|
| Aluminum Processing segment | | | |
| Packaging and containers | $1,287.3 | $1,157.7 | $ 943.9 |
| Transportation (incl. ordnance) | 701.3 | 602.3 | 473.1 |
| Electrical | 275.5 | 205.8 | 179.2 |
| Building and construction | 199.1 | 173.6 | 191.6 |
| Other* | 1,598.1 | 1,269.3 | 1,084.4 |
| | 4,061.3 | 3,408.7 | 2,872.2 |
| Finished Products and Other segment | 724.3 | 643.1 | 544.3 |
| TOTAL | $4,785.6 | $4,051.8 | $3,416.5 |

*Includes revenues from bauxite, alumina and chemical products of: 1979–$432.6; 1978–$369.2 and 1977–$343.8, and revenues from primary aluminum products of: 1979–$379.9; 1978–$229.9 and 1977–$182.8.

These coils of aluminum sheet to be used by the beverage container industry are checked by Bill Pottgen, pack-ship supervisor at Warrick (Ind.) Operations, which is the world's largest plant devoted to the production of light-gauge aluminum sheet.



the amortization of the increased valuation of the fixed assets.

Equity earnings were more significantly impacted by the cost of goods sold adjustments since the inventories of the equity companies are on an average cost rather than a LIFO basis.

The gain from the decline in purchasing power results from holding net monetary liabilities during 1979 and includes the company's share of gains of $62.8 from its adjusted equity investments. The treatment of the gain from the decline in purchasing power as an adjustment to income remains a controversial issue and the FASB concluded that it would be preferable for the amount to be displayed separately from net income pending further experimentation.

During 1979 the increase in the general price level of inventories, investments and property, plant and equipment exceeded the increase in specific prices for those same items by $193.9. However, the net assets at year-end, which reflect the adjustments since acquisition, show that specific price levels have risen more than the general price level. The following table shows the major elements comprising net assets at year-end for both methods:

| | | In average 1979 dollars | |
|---|---|---|---|
| | As reported in the primary statements | Adjusted for general inflation (constant dollar) | Adjusted for changes in specific prices (current cost) |
| Monetary assets | $1,027.7 | $ 973.5 | $ 973.5 |
| Inventories | 689.0 | 1,283.2 | 1,522.9 |
| Property, plants and equipment, net | 2,316.5 | 3,465.8 | 3,732.5 |
| Investments | 587.2 | 916.5 | 977.2 |
| Other non-monetary assets, less non-monetary liabilities | 66.2 | 62.7 | 62.7 |
| Monetary liabilities | (2,157.5) | (2,043.7) | (2,043.7) |
| Net assets (shareholders' equity) | $2,529.1 | $4,658.0 | $5,225.1 |

Note: The current cost on December 31, 1979 was: inventories–$1,607.7; property, plant and equipment–$3,924.9; and investments–$1,031.6.

**General Comments**

The FASB, in its Statement, has not completely defined how inflation-adjusted information is to be presented and interpreted. The concept of inflation-adjusted financial statements contains controversial elements and continues to be in the process of development. The FASB encourages further experimentation on the part of individual companies.

As the concept is more fully developed and a greater consensus is reached on the interpretation and presentation of the data, we are hopeful that more meaningful analysis will be possible. We also believe that the addition of subsequent years' data will allow comparisons of the information between years, which should be more useful than single-year data, in evaluating the impact of inflation on the company. It is our view that the current cost method more appropriately matches revenues and inflation-adjusted expenses applicable to the company.

The Statement requires presentation of certain financial information covering a five-year period. This information, along with certain other data selected by the company, is presented in the following table. There is also certain required information, such as adjusted market price data shown below, which the company feels may not be useful. You will note that the effective tax rate increases substantially on an inflation-adjusted basis over the statutory rate.

| (In average 1979 dollars) | 1979 | 1978 | 1977 | 1976 | 1975 |
|---|---|---|---|---|---|
| Total revenues—as reported | $4,847.0 | $4,072.5 | $3,433.1 | $2,943.6 | $2,322.8 |
| —constant dollars | 4,847.0 | 4,531.0 | 4,112.2 | 3,753.3 | 3,132.6 |
| Net income—as reported | 504.6 | | | | |
| —constant dollars | 291.9 | | | | |
| —current cost | 280.1 | | | | |
| Income per share—as reported | 14.29 | | | | |
| —constant dollars | 8.24 | | | | |
| —current cost | 7.90 | | | | |
| Net assets at year-end—as reported | 2,529.1 | | | | |
| —constant dollars | 4,658.0 | | | | |
| —current cost | 5,225.1 | | | | |
| Gain from decline in purchasing power of net amounts owed | 214.4 | | | | |
| Amount by which increase in general price level of inventory, investments and property, plant and equipment exceeds increase in specific prices | 193.9 | | | | |
| Effective tax rate—as reported (%) | 39.6 | | | | |
| —constant dollars* | 52.3 | | | | |
| —current cost* | 52.9 | | | | |
| Dividends per common share—as reported | 2.60 | 1.90 | 1.35 | 1.385 | 1.34 |
| —constant dollars | 2.60 | 2.11 | 1.62 | 1.77 | 1.81 |
| Market price per common share at year-end—as reported | 54.875 | 47.75 | 46.625 | 57.25 | 38.625 |
| —constant dollars | 51.98 | 53.13 | 55.85 | 73.00 | 52.09 |
| Average consumer price index (1967 = 100.0) | 217.4 | 195.4 | 181.5 | 170.5 | 161.2 |

*In accordance with Statement No. 33, no adjustments were made to the income tax expense from that shown in the historical financial statements.

# Inflation and Changing Prices

Supplementary Financial Information (unaudited)

**Introduction**

The Financial Accounting Standards Board's Statement No. 33, "Financial Reporting and Changing Prices", requires companies to present certain minimum supplementary information measuring the effects of inflation using two different methods of calculation. The company has elected to restate its significant equity companies, where practical, due to their material impact on earnings.

One method of calculation, defined as "constant dollar", attempts to measure the impact of "general" inflation. Historical financial statement elements are indexed to dollars having a fixed purchasing power by applying the Consumer Price Index for all Urban Consumers (CPI-U).

The second method of calculation, defined as "current cost", attempts to measure the impact of specific price changes on a company. Financial statement elements are restated to reflect the changes in prices of fixed assets and the purchase or manufacture of specific goods and services which that company uses.

Both methods involve the use of assumptions, approximations and estimates. The adjusted data should be viewed accordingly and not as precise indicators of the effects of inflation.

**Constant dollar measurement bases**

In making the constant dollar calculations, the same accounting principles were applied as in the primary financial statements. Financial statements for foreign companies were adjusted for U.S. inflation after translation into U.S. currency.

**Current cost measurement bases**

The current cost information was calculated in the following manner:

Inventories were determined by developing turnover ratios and indexing cost elements within the inventory and cost of goods sold accounts by use of internally developed indexes.

Plant and equipment costs were determined by applying specific published indexes related to the type, structure and geographic location of the specific groups of assets. Land and land rights were valued by application of the CPI-U. Depreciation was calculated using the same lives and methods as used in the primary financial statements.

For the adjusted equity companies, inventories, property, plant and equipment, cost of goods sold and depreciation were restated by the use of published and internal indexes. The FASB has not established final guidelines for measuring the current cost of income-producing real estate properties; therefore, the company's real estate investments and related equity earnings are reported in the current cost tables at the same amounts as computed under the constant dollar method.

The condensed statement of consolidated income and other selected data adjusted for changing prices for the year ended December 31, 1979 follows:

| | In average 1979 dollars | | |
|---|---|---|---|
| | As reported in the primary statements | Adjusted for general inflation (constant dollar) | Adjusted for changes in specific prices (current cost) |
| Total revenues | $4,847.0 | $4,847.0 | $4,847.0 |
| Cost of goods sold and operating expenses | 3,452.9 | 3,481.6 | 3,472.4 |
| Provision for depreciation and depletion | 247.0 | 383.2 | 398.8 |
| Other cost and expenses, including taxes* | 735.6 | 735.6 | 735.6 |
| | 4,435.5 | 4,600.4 | 4,606.8 |
| Income from operations | 411.5 | 246.6 | 240.2 |
| Equity earnings from entities not consolidated: | | | |
| Alcoa of Australia | 66.2 | 48.2 | 45.0 |
| Alcoa Properties, Inc. | 10.8 | (7.0) | (7.0) |
| Other entities owned 20 percent or more | 16.1 | 4.1 | 1.9 |
| | 93.1 | 45.3 | 39.9 |
| Net income | $ 504.6 | | |
| Adjusted net income per Statement No. 33 | | $ 291.9 | $ 280.1 |
| Gain from decline in purchasing power of net amounts owed | | $ 214.4 | $ 214.4 |
| Inventories, investments and property, plant and equipment: | | | |
| Increase in general price level | | | $ 776.3 |
| Increase in specific prices | | | 582.4 |
| Amount by which increase in general price level exceeds increase in specific prices | | | $ 193.9 |
| Net assets at year-end (shareholders' equity) | $2,529.1 | $4,658.0 | $5,225.1 |

*In accordance with Statement No. 33, no adjustments were made to the income tax expense from that shown in the historical financial statements.

**Analysis of information presented**

The adjustment to cost of goods sold in the supplemental income statements is less than one percent which reflects the company's use of the LIFO method of accounting for most of its consolidated inventories. The small difference results primarily from restating the remaining inventories to a current cost equivalent. The constant dollar cost of goods sold adjustment is larger due to the higher rate of increase of the CPI-U for 1979 as compared with the company's specific price indexes.

The depreciation adjustment under both methods reflects



# Aluminum Processing Segment

## Bauxite Alumina and Chemical Products

**Revenues** (millions)


Bauxite, an ore of aluminum, is mined by Alcoa and affiliated companies in Australia, Brazil, the Dominican Republic, Jamaica, the Republic of Guinea, Suriname and the United States. Present bauxite reserves at these locations are sufficient to supply the worldwide Alcoa system for at least 40 years, at current consumption rates. During 1979, a wholly owned subsidiary further explored bauxite reserves in the Amazon region of Brazil. The company has been granted mining rights in the area by the Brazilian government.

*An increasing amount of Alcoa bauxite is used to make alumina chemicals.* Provision to accommodate a growing demand for these chemicals was reflected in the company's 1979 capital expenditure program. Major additions were made for the production of tabular alumina, used primarily for refractory and ceramic purposes. An expansion at Bauxite, Ark., added 20,000 tons a year to tabular capacity, and Alcoa Chemie Nederland boosted capacity at Rotterdam by 10,000 tons to help meet demand for this product in Europe, Africa and the Middle East. Construction of a unit at the Rotterdam plant to produce calcium aluminate cement, used as a binder in high-temperature refractories, was also completed.

In November, Alcoa Minerals of Jamaica (AMJ) and the Government of Jamaica declared effective their 1976 agreement, under which Jamalco, a joint bauxite mining and refining venture, was formed. As of January 1, 1980, AMJ sold to the government a six percent interest in its mining and refining assets. The government has purchased all AMJ's mining and nonoperating lands; mining lands required for the joint venture operation have been leased back to the participants. AMJ will continue to manage the mining and refining operations.

*Computers have enabled Alcoa to improve the bauxite mining process.* Using data from an X-ray analysis of core samples, the computer precisely maps each bauxite deposit. This mapping makes it possible to supply Alcoa refineries with uniform grades of ore, permitting more efficient refining with reduced energy requirements.

C. Fred. Fetterolf, vice president-operations, primary products, listens to Leroy Bruce, powerhouse department supervisor, describe the three-year building program at Mobile, Ala. The modernization will help improve productivity and extend the life of one of Alcoa's three U.S. bauxite refineries by an estimated 40 years.

This Alcoa exploration team maps bauxite deposits in the Amazon jungle of Brazil. Alcoa and its affiliate, Alcominas, have proposed to build the subsidiary's second smelter and refinery and its first rolling mill.

# Primary Aluminum Products

Primary aluminum products include ingot and molten metal. Aluminum is produced by an electrolytic process that frees molten aluminum from its oxides. The aluminum is then poured into ingots for further processing either by Alcoa or its customers, or is sold to customers in molten form. Alcoa and its affiliated companies operate 15 smelters worldwide, with a production capacity of more than two million tons of aluminum annually. The company generates nearly 50 percent of the power needed for its U.S. smelters. Company power stations also supply smelters in Australia and Suriname.

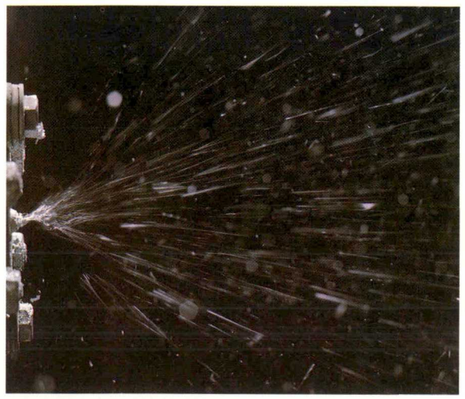
*In response to a growing demand for aluminum,* Alcoa restarted four of the seven potlines at Point Comfort (Tex.) Operations, and the final line at Warrick (Ind.) Operations. The potlines at Point Comfort had been idled in two steps, in 1975 and 1978, because of high gas costs.

Temporary power curtailments due to low stream flow in the Northwestern United States caused the shutdown of two and one-half potlines at Alcoa's operations in the State of Washington. The broader and more pervasive energy problem in the Northwest is the absence of legislation that will permit orderly development of additional power sources to meet energy needs. Alcoa is working with government, industry and community leaders on energy policy and legislation that will satisfy the Northwest region's growing energy needs while allowing the area's aluminum smelters to continue to operate.

Alcoa completed an extensive study of the energy-saving Alcoa Smelting Process in May, and one segment of the plant is being redesigned. Metal production at the Anderson County, Tex., plant was cut back by approximately one half while the redesign proceeds.

*Research continued on development of a new method of producing aluminum* by direct reduction that could decrease consumption of both imported bauxite and energy. Part of the funding for the project is supplied under a contract from the U.S. Department of Energy. Alcoa researchers are building a pilot furnace for use in this experimentation.


As executive vice president-engineering, procurement, construction and transportation, Robert C. Hatfield has a broad scope of responsibility that spans basic services essential to production and distribution.



In this unique process called "splat quenching," molten metal droplets are hurled against a chilled surface and cooled instantly. Objective of this work at Alcoa Laboratories is a family of lighter, stronger aluminum alloys with increased corrosion resistance.

Alcoa-owned lignite is transported in aluminum-bodied trucks to the nearby Rockdale (Tex.) power plant, which supplies the company's smelter there. An adjacent generating unit, being built by Texas Power and Light Co., will more than double the plant's generating capacity.



disposition thereof and of the deficiencies, if any, arising from the same issues for subsequent years will not have a materially adverse effect on the consolidated financial position of the company at December 31, 1979.

As summarized in the 1976 annual report to shareholders, the company conducted investigations with respect to questionable payments and political contributions, and the results of these investigations were disclosed in Form 8-K Current Reports filed by the company with the Securities and Exchange Commission for the months of June and November 1976. The company has advised the Internal Revenue Service of the results of these investigations. While the precise federal tax effect of the matters disclosed is yet to be determined, the company believes that the ultimate determination should have no material effect on its earnings, assets or financial position.

## I. Retirement plans

The company and its subsidiaries have retirement plans covering substantially all employees, including certain employees in foreign countries. The plans provide, in general, for monthly pensions upon retirement at or after age 65 or earlier upon disability, incapacity, special circumstances, or with certain minimum age and service requirements. Pension benefits generally depend upon length of service, job grade or remuneration, and certain social security and other benefits. The costs of the plans are borne by the company and participating subsidiaries principally through contributions to trust funds. The company's policy is to fund retirement costs accrued, including prior service costs, as actuarially determined, based upon various factors adjusted periodically for experience.

The company follows the unit credit actuarial method of determining costs of substantially all plans. Unfunded prior service costs are amortized principally over 30 years, with certain segments amortized over 10 years.

Total costs of retirement plans were $146.0 for 1979 and $135.3 for 1978. The 1979 increase in cost is due primarily to a combination of salary escalation and improvement in benefits.

Based upon the latest actuarial reports and estimates at December 31, 1979, the amount of the unfunded prior service cost was approximately $880 and the vested benefits exceeded the assets of the plans by approximately $492.

## J. Earnings per common share

Primary earnings are based on the average number of shares outstanding during each year, after annual preferred dividend requirements. Fully diluted earnings assume full conversion of convertible debentures, exercise of outstanding options and issuance of shares under the incentive compensation plan.

The average number of shares used to compute earnings per common share was as follows:

| | Primary | Fully diluted |
|---|---|---|
| 1979 | 35,125,536 | 37,119,086 |
| 1978 | 34,877,317 | 36,890,510 |

## K. Commitments and contingent liabilities

The company guarantee on outstanding indebtedness of others totaled $91.8 at December 31, 1979, including $64.8 applicable to an affiliate which operates a bauxite mining project in the Republic of Guinea.

## L. Lease expense

The company leases warehousing and office space, equipment and ocean-going vessels under long-term lease agreements. Total expense for all leases was $36.2 and $25.5 in 1979 and 1978, respectively. Under long-term lease obligations, minimum annual rentals for 1980 are $23.0 and for 1981 through 1990 will not exceed $8.6 in any year.

The company is also obligated under certain long-term leases of property for minimum annual rentals of $7.9 through approximately 2002, offset by annual rents of $7.9 from API, under existing noncancelable, long-term subleases. The property is reflected as real estate ($58.4) and debt ($75.2) on the December 31, 1979 consolidated balance sheet of API. In addition, the company remains obligated for $1.8 annually under long-term leases of two properties no longer owned by API and which are subleased for $1.8 to the owners. None of these long-term lease obligations had any effect on net income.

## M. Foreign currency

Foreign currency gains (losses), reflecting both realized and unrealized transactions, included in net income are:

| | 1979 | 1978 |
|---|---|---|
| Consolidated companies | $ .4 | $ (.3) |
| Equity companies: | | |
| Alcoa of Australia | 1.9 | .4 |
| Other | (.2) | (3.8) |
| | $ 2.1 | $(3.7) |

Included in the above are unrealized gains (losses) from the translation of long-term debt at current rates of $.6 and $(3.8) for 1979 and 1978, respectively.

## N. Other financial matters

See the indicated pages for information regarding:

# Notes to Financial Statements

Aluminum Company of America and consolidated subsidiaries (in millions, except share amounts)

## G. Reservations of common stock

As of December 31, 1979, shares of common stock were reserved for issuance as follows:

| | Number of shares |
|---|---|
| Employees' stock option plan | 1,947,368 |
| 5¼% convertible subordinated debentures | 1,792,839 |
| Salaried employees' savings plan | 313,665 |
| Future acquisition | 150,000 |
| Incentive compensation plan | 129,485 |
| Tax Reduction Act stock ownership plan | 250,000 |
| | 4,583,357 |

Options on the company's common stock have been and may be granted at prices not less than 100 percent of market prices on the option dates. At December 31, 1979, there were 909,554 shares exercisable.

Stock appreciation rights (SAR's) which may be granted under the plan, entitle the optionee, subject to certain conditions, to surrender the related option or portion of the option and receive cash and/or shares of the company's common stock having a value equal to the appreciation on the option. The appreciation of SAR's is reflected in income based upon the market value of common stock at the end of each year. At December 31, 1979, rights related to options for 303,425 shares at prices ranging from $28.375 to $54.50 per share were outstanding.

A summary of the 1979 transactions for shares under option, follows:

| | Number of shares |
|---|---|
| Options: | |
| Outstanding December 31, 1978 ($28.375—54.50)* | 1,052,130 |
| Granted ($52.00) | 207,325 |
| Exercised ($28.375—54.50)* | (100,697) |
| Expired | (12,825) |
| Canceled | (29,204) |
| Outstanding December 31, 1979 ($28.375—54.50)* | 1,116,729 |

*Denotes option price range per share

At December 31, 1979, 830,639 shares were reserved for future options, compared with 995,935 at December 31, 1978.

The 5¼% convertible debentures are convertible into common stock, subject to certain dilution provisions, at any time prior to maturity or redemption. The conversion price at December 31, 1979 was $56.00 per share. Other provisions restrict cash dividends and repurchase of capital stock. At December 31, 1979, $1,691.7 of retained earnings was free of restrictions.

## H. Taxes

Taxes consisted of the following:

| | 1979 | 1978 |
|---|---|---|
| Provision for United States taxes on income: | | |
| Current | $207.1 | $117.1 |
| Future | 18.7 | 28.1 |
| Provision for (reduction of) foreign taxes on income: | | |
| Current | 45.5 | 45.3 |
| Future | (1.1) | (1.5) |
| | 270.2 | 189.0 |
| Other taxes, except social security and severance taxes | 73.4 | 60.3 |
| | $343.6 | $249.3 |

The provision for future taxes resulted from the following timing differences:

| | 1979 | 1978 |
|---|---|---|
| United States: | | |
| Depreciation | $14.8 | $19.4 |
| Investment credit | (1.4) | 12.0 |
| Other | 5.3 | (3.3) |
| | 18.7 | 28.1 |
| Foreign: | | |
| Depreciation and other | (1.1) | (1.5) |
| | $17.6 | $26.6 |

The provision for U.S. and foreign taxes on income was $270.2 for 1979 and $189.0 for 1978, representing effective tax rate percentages of 39.6 and 42.5, respectively. The difference between such effective tax rates and the 46 and 48 percent federal income tax rate for 1979 and 1978, respectively, results from the following:

| | Percent of income before U.S. and foreign taxes on income 1979 | 1978 |
|---|---|---|
| Investment credit | (5.1) | (5.0) |
| Other | (1.3) | (.5) |
| | (6.4) | (5.5) |

Investment credit included in income was $34.5 in 1979 and $22.2 in 1978, including amortization of deferred credits of $2.5 and $2.3, respectively.

The company has provided for U.S. income taxes estimated to be payable on undistributed earnings from subsidiaries and entities owned 20 percent or more, except for undistributed earnings of foreign subsidiaries and entities aggregating $127. Management's present plans are not to repatriate such earnings in the foreseeable future.

The company has received deficiency assessment notices from the Internal Revenue Service proposing substantial additional federal income taxes arising principally from foreign operations for the years 1962 through 1969, which have been protested. While the outcome of certain of these matters is not determinable at this time, management is of the opinion that the



# Flat-rolled Products

Flat-rolled aluminum accounts for more than half of Alcoa's mill products output. Two of the company's four flat-rolled products plants in the U.S., Davenport (Iowa) Works and Warrick (Ind.) Operations, ran at virtual capacity throughout 1979 to help meet the growing demand for aluminum plate, sheet and foil from the aerospace and packaging and container markets and from independent distributors.

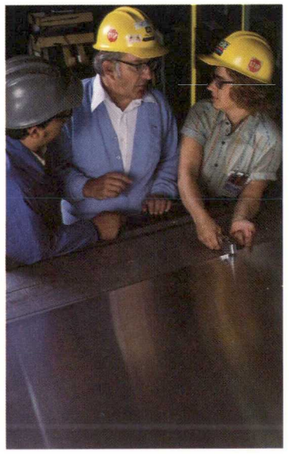
In keeping with the United States' national policy of adopting the international system of units, Alcoa continued to develop the necessary plans and procedures for conversion. In support of this program, the company published preferred metric sizes for its aluminum sheet and plate products.

*Work progressed on a number of expansion and improvement programs* to help increase production of flat-rolled products. Strip-casting facilities installed at Badin, N.C., will increase metal availability for cold-rolling operations throughout the Alcoa system. New strip-casting and cold-rolling facilities at Lebanon, Pa., will further increase capacity to produce flat-rolled products. An expansion program completed late in the year at Alcoa, Tenn., doubled the plant's capacity to produce body stock for aluminum cans.

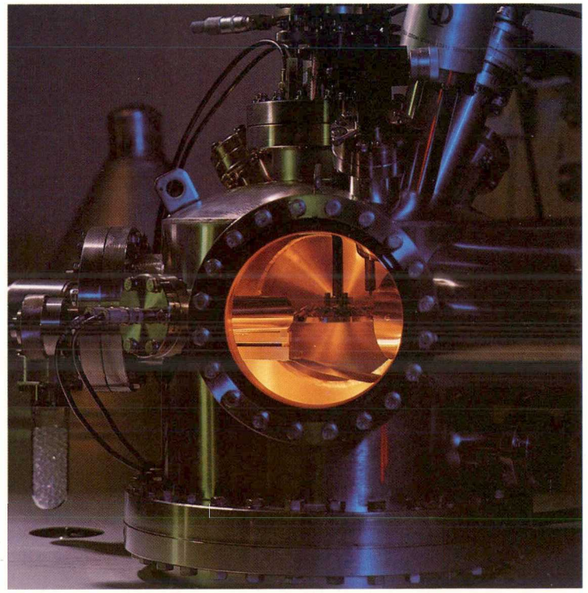
An expansion project completed in mid-1979 at Davenport Works included heat-treating facilities and equipment improvements to increase productivity and capacity, primarily for aerospace. A second expansion of heat-treating facilities was begun while the earlier program was being completed. The new project, which includes plate and sheet heat-treating units and related processing, finishing and handling equipment, will be completed in about three years.

*Expansion of the company's can reclamation facility* at Alcoa, Tenn., was completed in June. The expansion doubled the plant's capacity to recycle aluminum cans, to 400 million a month. Alcoa also recycles used cans at Warrick Operations. Alcoa opened new can collection centers in 10 states in the United States. Alcoa of Australia increased its Cash-a-Can Centers to a total of 140. Alcoa of Great Britain launched three pilot can recycling projects in mid-1979.


Metal quality and manufacturing precision are of paramount importance in Alcoa aluminum products. At Davenport (Iowa) Works, Gary Carlson, electrical maintenance (left), Max Crane, training administrator, and Dianna Frantz, coil products, discuss inspection techniques to ensure that high standards are maintained on this lithographic sheet.



Ronald R. Hoffman is vice president, flat-rolled products, which account for more than half of Alcoa's aluminum shipments. Here he visits Tennessee Operations, one of Alcoa's four flat-rolled products plants in the U.S.



This ion-scattering spectrometer helps scientists at Alcoa Technical Center peer inside aluminum as they develop new alloys and products.

# Extruded, Rolled and Drawn Products

Extruded, rolled and drawn aluminum products include wire, rod, bar, tube and shapes of aluminum in a wide variety of cross-sections.

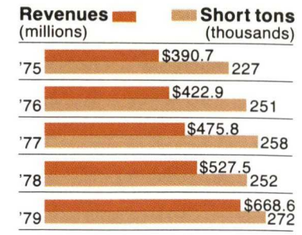
In the extrusion process, heated aluminum is squeezed through a die to produce a piece of metal of the desired length and cross-section shape. Alcoa operates some of the largest extrusion presses in the world to turn out shapes up to 31 inches wide and 110 feet long.

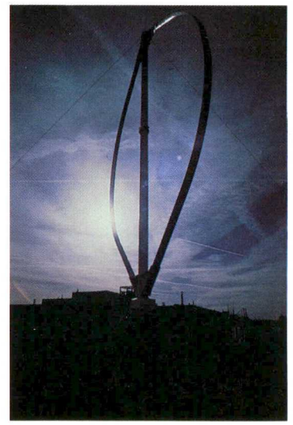
The rolling process, in which aluminum ingot is reduced in thickness by passing it between pairs of rolls, is combined with extruding to produce rod and bar for screw machine and forging stock and for subsequent drawing into wire.

*An important 1979 capital expenditure* converted the Vernon, Calif. plant from the production of soft alloy to hard alloy extrusions and better equipped the plant to serve the aerospace and automotive industries on the West Coast. Hard alloys are used extensively in aircraft and commercial vehicles.

A $16 million project at Massena, N.Y., Alcoa's oldest manufacturing facility, neared completion. This consolidation of wire drawing machines, furnaces and handling equipment into one renovated building will save some $700,000 a year in space-heating cost alone.

*A contemporary version of the old windmill* is enabling Alcoa engineers to harness the wind to generate electricity. This modern wind turbine is made of aluminum alloy blades extruded in the shape of an airfoil. The new system was developed by Alcoa for a government-sponsored project and is called the Alcoa Vertical Axis Wind Turbine. Turbines in various sizes and shapes that produce a range of electrical outputs were evaluated, and demonstration units were made available for sale in 1979. It is expected that the turbines will be most suited for commercial power uses.



This vertical axis turbine, which converts wind into electricity, is one of a family of wind turbines that Alcoa is presently testing. The turbines were designed and produced by Alcoa, using extruded aluminum blades produced at Lafayette, Ind.

H. P. Van Liempd, a tool and die maker at the Drunen plant of Alcoa Nederland, finishes a die used in the production of all-aluminum racks for cultivating mushrooms. The company produces aluminum semi-finished and finished products.



## F. Segment and geographic information

The company is primarily an integrated producer of aluminum products. Information relative to the company's operations has been segregated between Aluminum Processing, and Finished Products and Other.

The Aluminum Processing segment includes the production and sale of bauxite, alumina and chemical products, molten metal and ingot, and basic mill products. Also included are the power, oil and gas, transportation and other activities which principally serve the operations of this segment.

The Finished Products and Other segment includes the production and sale of finished aluminum products such as residential siding, cooking utensils, fasteners and closures. It also includes the licensing of technology, the sale of engineering and construction services, and the production and sale of nonaluminum products such as copper wire products, plastic products, titanium, magnesium and steel forgings and manufacturing equipment.

Information about the company's operations by segment and by geographic area follows:

| Segment information | 1979 | 1978 | 1977 |
|---|---|---|---|
| Sales to customers: | | | |
| Aluminum processing | $4,061.3 | $3,408.7 | $2,872.2 |
| Finished products and other | 724.3 | 643.1 | 544.3 |
| | 4,785.6* | 4,051.8* | 3,416.5* |
| Inter-segment sales** | | | |
| Aluminum processing | 122.6 | 137.6 | 149.8 |
| Finished products and other | 12.0 | 14.9 | 9.2 |
| | 134.6 | 152.5 | 159.0 |
| | 4,920.2 | 4,204.3 | 3,575.5 |
| Eliminations | (134.6) | (152.5) | (159.0) |
| Total sales and operating revenues | $4,785.6 | $4,051.8 | $3,416.5 |
| Operating profit: | | | |
| Aluminum processing | $ 710.1 | $ 497.3 | $ 327.4 |
| Finished products and other | 51.1 | 52.1 | 31.8 |
| Unallocated expenses | (33.8) | (22.1) | (23.1) |
| Eliminations | 2.2 | (2.2) | (1.8) |
| Total operating profit | 729.6 | 525.1 | 334.3 |
| Other income | 61.4 | 20.7 | 16.6 |
| Interest expense | (86.1) | (87.8) | (89.8) |
| Taxes on income | (293.4) | (202.5) | (104.5) |
| Income from operations | $ 411.5 | $ 255.5 | $ 156.6 |
| Identifiable assets: | | | |
| Aluminum processing | $3,587.7 | $3,337.3 | $3,026.0 |
| Finished products and other | 302.7 | 269.2 | 252.9 |
| | 3,890.4 | 3,606.5 | 3,278.9 |
| Investments | 587.2 | 490.6 | 446.7 |
| Corporate assets | 233.7 | 70.1 | 76.4 |
| Total assets | $4,711.3 | $4,167.2 | $3,802.0 |
| Depreciation and depletion: | | | |
| Aluminum processing | $ 229.3 | $ 215.3 | $ 192.3 |
| Finished products and other | 17.7 | 12.2 | 11.6 |
| | $ 247.0 | $ 227.5 | $ 203.9 |
| Capital expenditures: | | | |
| Aluminum processing | $ 399.6 | $ 328.0 | $ 263.1 |
| Finished products and other | 20.4 | 21.8 | 18.6 |
| | $ 420.0 | $ 349.8 | $ 281.7 |

| Geographic area information | 1979 | 1978 | 1977 |
|---|---|---|---|
| Sales to customers: | | | |
| United States | $4,228.3 | $3,608.4 | $3,027.0 |
| Western Hemisphere | 244.0 | 200.0 | 160.5 |
| Other foreign | 313.3 | 243.4 | 229.0 |
| | 4,785.6* | 4,051.8* | 3,416.5* |
| Transfers between geographic areas** | | | |
| United States | 455.1 | 296.3 | 273.9 |
| Western Hemisphere | 338.2 | 302.2 | 257.3 |
| Other foreign | 138.3 | 118.1 | 103.5 |
| | 931.6 | 716.6 | 634.7 |
| | 5,717.2 | 4,768.4 | 4,051.2 |
| Eliminations | (931.6) | (716.6) | (634.7) |
| Total sales and operating revenues | $4,785.6 | $4,051.8 | $3,416.5 |
| Operating profit: | | | |
| United States | $ 590.3 | $ 396.5 | $ 239.8 |
| Western Hemisphere | 85.0 | 90.0 | 61.6 |
| Other foreign | 52.7 | 42.2 | 31.7 |
| | 728.0 | 528.7 | 333.1 |
| Eliminations | 1.6 | (3.6) | 1.2 |
| Total operating profit | 729.6 | 525.1 | 334.3 |
| Other income | 61.4 | 20.7 | 16.6 |
| Interest expense | (86.1) | (87.8) | (89.8) |
| Taxes on income | (293.4) | (202.5) | (104.5) |
| Income from operations | $ 411.5 | $ 255.5 | $ 156.6 |
| Identifiable assets: | | | |
| United States | $3,388.5 | $3,146.2 | $2,835.9 |
| Western Hemisphere | 394.4 | 377.7 | 356.4 |
| Other foreign | 160.4 | 130.4 | 126.4 |
| | 3,943.3 | 3,654.3 | 3,318.7 |
| Eliminations | (52.9) | (47.8) | (39.8) |
| | 3,890.4 | 3,606.5 | 3,278.9 |
| Investments in entities owned 20% or more: | | | |
| United States | 103.4 | 95.2 | 87.5 |
| Western Hemisphere | 107.0 | 91.8 | 78.1 |
| Other foreign | 375.4 | 300.2 | 277.6 |
| | 585.8 | 487.2 | 443.2 |
| Other investments | 1.4 | 3.4 | 3.5 |
| | 587.2 | 490.6 | 446.7 |
| Corporate assets | 233.7 | 70.1 | 76.4 |
| Total assets | $4,711.3 | $4,167.2 | $3,802.0 |
| Capital expenditures: | | | |
| United States | $ 379.3 | $ 325.7 | $ 244.5 |
| Western Hemisphere | 28.8 | 19.9 | 34.8 |
| Other foreign | 11.9 | 4.2 | 2.4 |
| | $ 420.0 | $ 349.8 | $ 281.7 |

*Revenues from the United States government were less than .5% in each year.
**Transfers between segments and geographic areas are based on generally prevailing market prices.

Financial information for all wholly owned foreign subsidiaries and Western Hemisphere trade corporations (principally located in the islands of the Caribbean and in South America) included in the consolidated financial statements, follows:

| December 31 | 1979 | 1978 |
|---|---|---|
| Working capital | $166.3 | $153.0 |
| Noncurrent assets | 344.5 | 349.0 |
| Noncurrent liabilities | (30.7) | (12.5) |
| | $480.1 | $489.5 |

# Notes to Financial Statements

Aluminum Company of America and consolidated subsidiaries (in millions, except share amounts)

A summary of the audited consolidated financial data of Alcoa Properties, Inc. (API), Alcoa's wholly owned real estate holding company, follows:

| | 1979 | 1978 |
|---|---|---|
| Real estate, less accumulated depreciation and amortization of $49.9 in 1979 and $48.3 in 1978 | $148.4 | $146.2 |
| Long-term debt | 92.2 | 96.5 |
| | 56.2 | 49.7 |
| Other assets, less other liabilities | 6.3 | 2.3 |
| Investments in entities not majority owned | 25.5 | 23.0 |
| | 88.0 | 75.0 |
| Alcoa loan to (from) API | (8.2) | 2.3 |
| Alcoa's investment | $ 79.8 | $ 77.3 |
| Income | $ 59.4 | $ 54.6 |
| Costs and expenses | 44.7 | 41.5 |
| Losses—real estate developments not majority owned | 1.8 | 10.1 |
| API's income | 12.9 | 3.0 |
| Allocation of tax credits (charges) | (2.1) | 2.1 |
| Alcoa's equity in income | $ 10.8 | $ 5.1 |

A subsidiary of API has a 50 percent interest in a joint venture located in Century City, Los Angeles, California. A summary of the audited 1979 financial data of the joint venture follows:

| | |
|---|---|
| Real estate, less accumulated depreciation and amortization of $22.0 | $173.9 |
| Long-term debt | (133.7) |
| Other liabilities, less other assets | (1.0) |
| Net assets | $ 39.2 |
| API's share of the net assets | $ 22.7 |
| Less, $4.9 excess of fair value over book value of the land and improvements contributed to the joint venture by API's subsidiary; offset by $2.8 representing API's share of the joint venture pre-operating expense; both are being amortized over a ten-year period which began in 1975 | (2.1) |
| API's investment | $ 20.6 |
| Income | $ 22.1 |
| Costs and expenses | 27.2 |
| Net loss | $ 5.1 |
| API's share of net loss, before tax credits | $ 5.1 |

The subsidiary has agreed to provide all additional cash funds above the $198.8 of equity and loan funds provided by the venturers until the venture is self-sustaining. Under this agreement, the subsidiary contributed $60.5 through 1979. It is anticipated that the joint venture will be self sustaining in 1980 and that any remaining cash obligations of the subsidiary will be provided from its share of joint venture distributions. The agreement provides for the net loss of the joint venture to be allocated first to the subsidiary in amounts equivalent to the additional funds contributed. If, as expected, the subsidiary meets all its joint venture requirements, Alcoa will be relieved of any obligation to lease the property owned by the joint venture by the end of 1980. At December 31, 1979, 94 percent of available space was leased.

API's share of the net assets of real estate developments not majority owned is greater than API's investment therein, due to the net excess of $2.1 applicable to the joint venture.

AA, API and certain entities owned 20 percent or more capitalize interest during development periods.

Shown below is a summary of the audited combined 1979 financial data for Alcoa's unconsolidated subsidiaries (exclusive of AA and API) and the combined financial data for certain other entities:

| | Unconsolidated subsidiaries | Certain entities |
|---|---|---|
| Current assets | $187.0 | $100.5 |
| Properties, plants and equipment, net | 182.1 | 236.7 |
| Other assets | 4.0 | 180.5 |
| Total assets | 373.1 | 517.7 |
| Current liabilities | 162.4 | 121.9 |
| Long-term debt and other liabilities | 125.0 | 207.1 |
| Total liabilities | 287.4 | 329.0 |
| Net assets | $ 85.7 | $188.7 |
| Alcoa's share of the net assets | $ 65.9 | $114.2 |
| Income | $321.0 | $372.4 |
| Costs and expenses | 353.6 | 306.0 |
| Provision for taxes | 1.7 | 30.3 |
| Net income (loss) | $ (34.3) | $ 36.1 |
| Alcoa's share of net income (loss), after provision for U.S. income tax | $ (13.0) | $ 22.3 |

## D. Properties, plants and equipment, at cost

| December 31 | 1979 | 1978 |
|---|---|---|
| Land and land rights, including mines | $ 92.8 | $ 94.8 |
| Structures | 1,368.3 | 1,326.3 |
| Machinery and equipment | 2,982.5 | 2,803.3 |
| | 4,443.6 | 4,224.4 |
| Less, accumulated depreciation, depletion and amortization | 2,404.1 | 2,297.1 |
| | 2,039.5 | 1,927.3 |
| Construction work in progress | 277.0 | 234.7 |
| Patents and other intangibles, at cost, less amortization | 2.4 | 2.6 |
| | $2,318.9 | $2,164.6 |

## E. Additional capital

Changes in additional capital:

| | 1979 | 1978 |
|---|---|---|
| Balance at beginning of year | $147.6 | $132.0 |
| Excess of amounts received over aggregate par value of Alcoa common stock issued for salaried employees' savings plan, employees' stock option plan, incentive compensation plan and conversion of debentures (115,251 and 364,207 shares, respectively) | 4.6 | 15.5 |
| Tax benefit applicable to employee stock options | .6 | .1 |
| Balance at end of year | $152.8 | $147.6 |



## Other Products

Other Alcoa products in the Aluminum Processing segment are aluminum castings, forgings, powders and pigments. Castings, in which molten aluminum solidifies in molds of the desired shape, are used in the aerospace, machinery and equipment, and transportation industries. Alcoa premium engineered castings provide exacting detail and strength for intricate shapes.

Forgings are made by forcing aluminum into a die cavity under pressure and are specified when especially high strength is needed. A common use of Alcoa forgings is in aircraft parts. Another is for truck and automobile wheels.

*Robots that manipulate aluminum during the forging operation* were installed at Alcoa's Cleveland (Ohio) Works. They have taken people out of hot, dangerous operations while increasing productivity. Designed at Alcoa Laboratories in close cooperation with engineering and operating personnel, these robots boosted production of forged aluminum wheels at the Cleveland plant from 600 to 1500 units per shift, without changing the number of employees.

The company's facilities at Cleveland and Vernon shipped large volumes of parts forged of aluminum, titanium and steel for commercial and military aircraft and for ordnance applications. Cleveland made its initial forgings of new, high-strength aluminum powder metallurgy alloys. These parts develop superior resistance to mechanical fatigue and stress-corrosion cracking.

*Construction of a new powder and pigment plant* began at Rockdale, Tex., following an explosion that destroyed the existing plant in December 1978. The new plant will be computer-operated and has been redesigned for maximum safety and more efficient operation. At Logans Ferry, Pa., the atomizer was damaged in July and will not be replaced. The plant will continue as a source of aluminum pigments.


Aluminum helps offset rising energy costs by reducing weight and increasing payload. This truck is equipped with aluminum fuel tanks, wheels, cab, bumper and radiator. The lightweight Alcoa forged disc wheels increase payload by at least 1,000 pounds per trip.


Shipments of forged aluminum wheels by Alcoa set a record in 1979, as the transportation industry sought to save deadweight and reduce fuel consumption. In Cleveland, Ohio, where Alcoa makes these wheels, a production run is inspected by machinist Tom Ward.

# Finished Products & Other Segment

This business segment includes finished aluminum products, the licensing of Alcoa technology, the sale of engineering and construction services and numerous nonaluminum products.

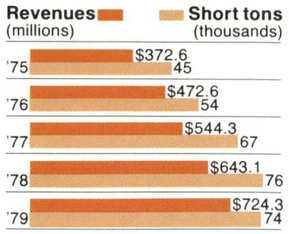
*Production of aluminum automobile bumpers* was expanded at The Stolle Corporation, a diversified Alcoa subsidiary located in Sidney, Ohio. The company manufactured the front bumpers for two of General Motors' new front-wheel-drive, X-model cars. In mid-1980, Stolle will begin producing bumpers for the 1981 Volkswagen Rabbits.

*Wear-Ever Aluminum* added to its broad line of aluminum cookware and electrical housewares. Sales have been strong for heavy-gauge aluminum cookware with SilverStone nonstick surface introduced early in the year. An innovative rotary cooker called "Kabob-It" was developed for introduction in early 1980.

*Five new residential building products,* including an insulating aluminum rolling door and vinyl siding, were introduced early in 1979 and helped boost sales for Alcoa Building Products. The company also introduced a new coating for aluminum siding called Alumalure 2000. The water-base coating is designed to optimize resistance to chalking, fading and mildew accumulation on siding, soffit, gutters and trim sheet. As a result of continued improvements both in coatings and manufacturing processes, the company extended the warranties on its aluminum and vinyl sidings.

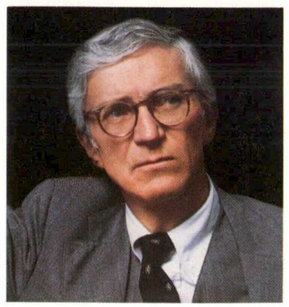
*Buckeye Molding,* a subsidiary located in New Vienna, Ohio, continued to expand and profit from a variety of plastic products, including plastic lids for coffee cans and margarine tubs. Two additional production units are scheduled to be added in 1980.

*The licensing of Alcoa technology* was increased in 1979. Through the technology marketing division, Alcoa is supplying aluminum smelting technology in North America to Alumax, Alcan and Anaconda. Other major engineering projects involving the licensing of technology are being considered by clients in a number of countries, including Australia, Canada, Mexico, the People's Republic of China, and several Latin American countries as well as the United States.





These plastic lids for coffee cans, margarine tubs and other containers are made by Buckeye Molding Company, an Alcoa subsidiary, located in Ohio.



R. Banks Smith is vice president-industrial group, allied products, which comprises real estate operations, aluminum castings and extrusions, marine exploration, magnet wire and electrical harnesses, powdered metals and engineering services.

This copper wire is made by Rea Magnet Wire Company, Inc., an Alcoa subsidiary headquartered in Fort Wayne, Ind. The company operates five plants and is a major supplier to electrical equipment manufacturers.



# Notes to Financial Statements

Aluminum Company of America and consolidated subsidiaries (in millions, except share amounts)

## A. Summary of significant accounting policies

PRINCIPLES OF CONSOLIDATION—The consolidated financial statements include the accounts of Alcoa and its wholly owned subsidiaries, except for Alcoa Properties, Inc. (API). Investments in subsidiaries less than wholly owned, companies and entities owned 20 percent or more and API are stated at cost, adjusted for Alcoa's equity in their results of operations since dates of acquisition. Other investments are carried at cost.

All material intercompany transactions have been eliminated.

INVENTORY VALUATION—Inventories are carried at the lower of cost or market, with cost for substantially all inventories determined under the last-in, first-out (LIFO) method. Other inventories are principally determined under the average cost method.

DEPRECIATION, DEPLETION AND AMORTIZATION—The straight-line method is generally used, except for additions during the years 1954 through 1964 for which the sum-of-the-years-digits method is used. Depreciation is taken over the estimated useful lives of the assets. The book value of obsolete assets is charged to depreciation expense when they are scrapped. Repairs and maintenance are charged to expense as incurred. Profits or losses resulting from the sale of assets are included in income.

Depletion is taken over the period during which the estimated mineral reserves are extracted.

Patents and other intangibles are amortized over estimated lives.

INTEREST EXPENSE—Interest expense of Alcoa and consolidated subsidiaries is charged to expense as incurred.

RESEARCH AND DEVELOPMENT AND EXPLORATION COSTS—Expenditures for basic and applied research and development relative to the company's products and processes are charged to expense as incurred. Expenditures for geological exploration programs are generally deferred and amortized over the period during which the resources are extracted. Applicable exploration costs are charged to expense in the year any program or area is abandoned.

FUTURE TAXES ON INCOME—Future taxes on income are provided (credited) on timing differences in the recognition of income and expense items for financial and tax purposes.

INVESTMENT TAX CREDITS—Alcoa takes directly into income the Job Development Investment Credit beginning with the 1971 Revenue Act. The investment credit under the 1962 Revenue Act is amortized to income over the estimated economic lives of the applicable properties.

FOREIGN CURRENCY—Foreign currency balance sheet accounts are translated into U.S. dollars at current exchange rates for monetary items and historical rates for all other items. Revenue and expense accounts are translated at the current rates in effect during each month, except for those accounts which relate to assets and liabilities translated at historical rates. Foreign currency gains and losses are included in the statement of consolidated income.

## B. Inventories

| December 31 | 1979 | 1978 |
|---|---|---|
| Finished goods | $150.6 | $151.2 |
| Work in process | 295.5 | 312.3 |
| Bauxite and alumina | 110.1 | 93.1 |
| Purchased raw materials | 66.1 | 66.3 |
| Operating supplies | 66.7 | 45.0 |
| | $689.0 | $667.9 |

Inventories for which the LIFO method of determining cost was used comprised approximately 86 percent of consolidated inventories, before deducting LIFO reserves, at December 31, 1979 and 1978.

If the average cost method utilizing current standard production costs had been used for inventory valuation instead of the LIFO method, inventories would have been $855.1 and $750.7 higher at December 31, 1979 and 1978, respectively. Inventory profits included in 1979 and 1978 net income were not significant.

## C. Investments

A summary of the audited consolidated financial data of Alcoa of Australia Limited (AA), a 51 percent owned company, follows:

| | 1979 | 1978 |
|---|---|---|
| Current assets | $362.4 | $246.1 |
| Properties, plants and equipment, net | 632.5 | 569.8 |
| Other assets | 40.5 | 31.5 |
| Total assets | 1,035.4 | 847.4 |
| Current liabilities | 241.0 | 174.2 |
| Long-term debt: | | |
| Alcoa | 21.4 | 27.5 |
| Other | 252.6 | 239.6 |
| Noncurrent liabilities | 136.2 | 110.5 |
| Total liabilities | 651.2 | 551.8 |
| Net assets | $384.2 | $295.6 |
| Alcoa's share of the net assets | $195.9 | $150.8 |
| Income | $738.8 | $549.7 |
| Costs and expenses | 505.3 | 393.5 |
| Income before foreign currency gains and provision for income taxes | 233.5 | 156.2 |
| Foreign currency gains | 7.0 | 1.5 |
| Pre tax income (net income $133.1—1979; $92.6—1978) | $240.5 | $157.7 |
| Alcoa's share of pre tax income | $122.7 | $ 80.4 |
| U.S. and foreign taxes and other | 56.5 | 38.3 |
| Alcoa's share of net income | $ 66.2 | $ 42.1 |

Alcoa's share of the net assets of AA is $12.0 greater than Alcoa's investment therein. This excess, representing principally capital stock issued to Alcoa in exchange for certain proprietary processes and technical information, is being amortized over the life of AA's mining lease.

The projected expenditures of AA for properties, plants and equipment for 1980 are $290.

# Statement of Changes in Consolidated Financial Position

| Aluminum Company of America and consolidated subsidiaries | | (in millions) |
|---|---|---|
| For the years ended December 31 | **1979** | 1978 |
| **Source of working capital** | | |
| From operations: | | |
| Net income | **$504.6** | $312.7 |
| Add, charges (credits) to income which did not require working capital: | | |
| Depreciation and depletion | **247.0** | 227.5 |
| Increase in deferred income, investment credit and noncurrent liabilities | **13.5** | 18.0 |
| Addition to future taxes on income | **34.3** | 25.4 |
| Other, principally equity in undistributed (earnings) losses of entities not consolidated | **(67.2)** | (32.6) |
| Total from operations | **732.2** | 551.0 |
| Book value of properties, plants and equipment disposed of | **18.8** | 3.8 |
| | **751.0** | 554.8 |
| Decreases in investments | **27.0** | 15.0 |
| Proceeds from: | | |
| Common stock issued | **5.4** | 15.9 |
| Tax-exempt revenue bonds | **3.9** | 5.5 |
| Other long-term debt | **1.1** | 3.4 |
| | **788.4** | 594.6 |
| **Use of working capital** | | |
| Additions to properties, plants and equipment | **420.0** | 349.8 |
| Additions to investments | **51.6** | 24.9 |
| Payments on long-term debt | **116.8** | 42.5 |
| Dividends declared: | | |
| Preferred stock | **2.5** | 2.5 |
| Common stock | **91.3** | 66.3 |
| Increase (decrease) in other assets and deferred charges | **(19.5)** | 19.9 |
| Other | **2.3** | 20.2 |
| | **665.0** | 526.1 |
| Increase in working capital | **$123.4** | $ 68.5 |
| The principal increases (decreases) in working capital components follow: | | |
| Current assets: | | |
| Cash and short-term investments | **$169.8** | $ 4.2 |
| Receivables | **99.2** | 133.4 |
| Inventories | **21.1** | 27.9 |
| Prepaid expenses and other assets | **22.6** | 1.0 |
| | **312.7** | 166.5 |
| Current liabilities: | | |
| Accounts payable, accrued expenses and taxes | **191.7** | 95.5 |
| Long-term debt due within one year | **(2.4)** | 2.5 |
| | **189.3** | 98.0 |
| Increase in working capital | **$123.4** | $ 68.5 |

The accompanying notes are an integral part of the financial statements.



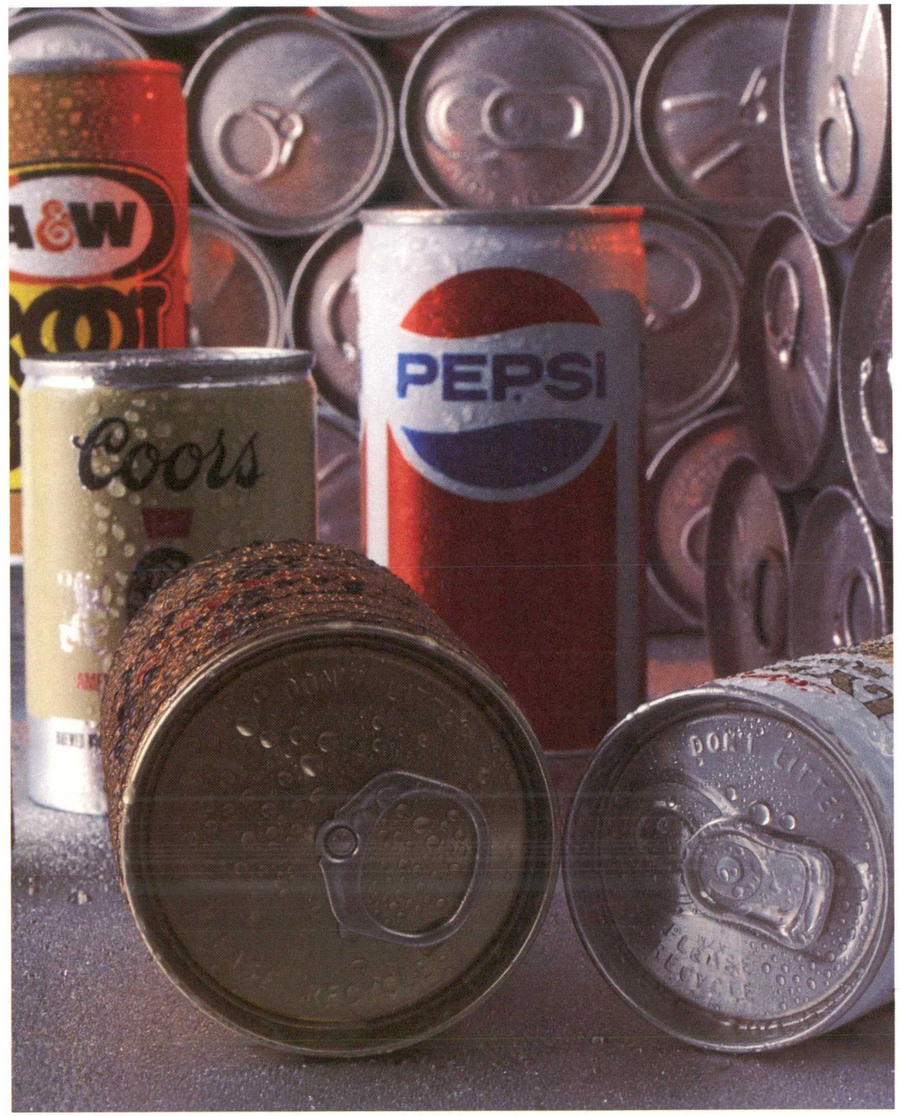
# Markets

## Packaging and Containers

The largest market for Alcoa's mill products is packaging and containers. Light-gauge aluminum sheet and foil are used by customers to make beverage cans and can ends, semirigid food containers, institutional foil, bottle caps and closures, and various flexible packaging products.

Aluminum's share of the beverage can market reached a new high, and Alcoa maintained its prominent position in the can sheet market. In 1979, over 60 percent of the beverage cans made in the U.S. were aluminum, compared with 55 percent in 1978 and 50 percent in 1977.

In 1979, Alcoa recycled 143.6 million pounds of used aluminum cans. This is a 27 percent increase over 1978, and the equivalent of the annual output of 2½ conventional primary aluminum potlines. This program saves 95 percent of the energy that would be required to produce aluminum from bauxite. It also reduces the amount of bauxite and/or alumina that must be imported, thus making a positive contribution to the nation's balance of trade.




Over 60 percent of U.S. beverage cans made in 1979 were aluminum, and more than one in four was recycled. Alcoa alone recycled a record 3.3 billion used cans, saving enough energy to supply the annual electrical needs of 118,000 households.

## Transportation

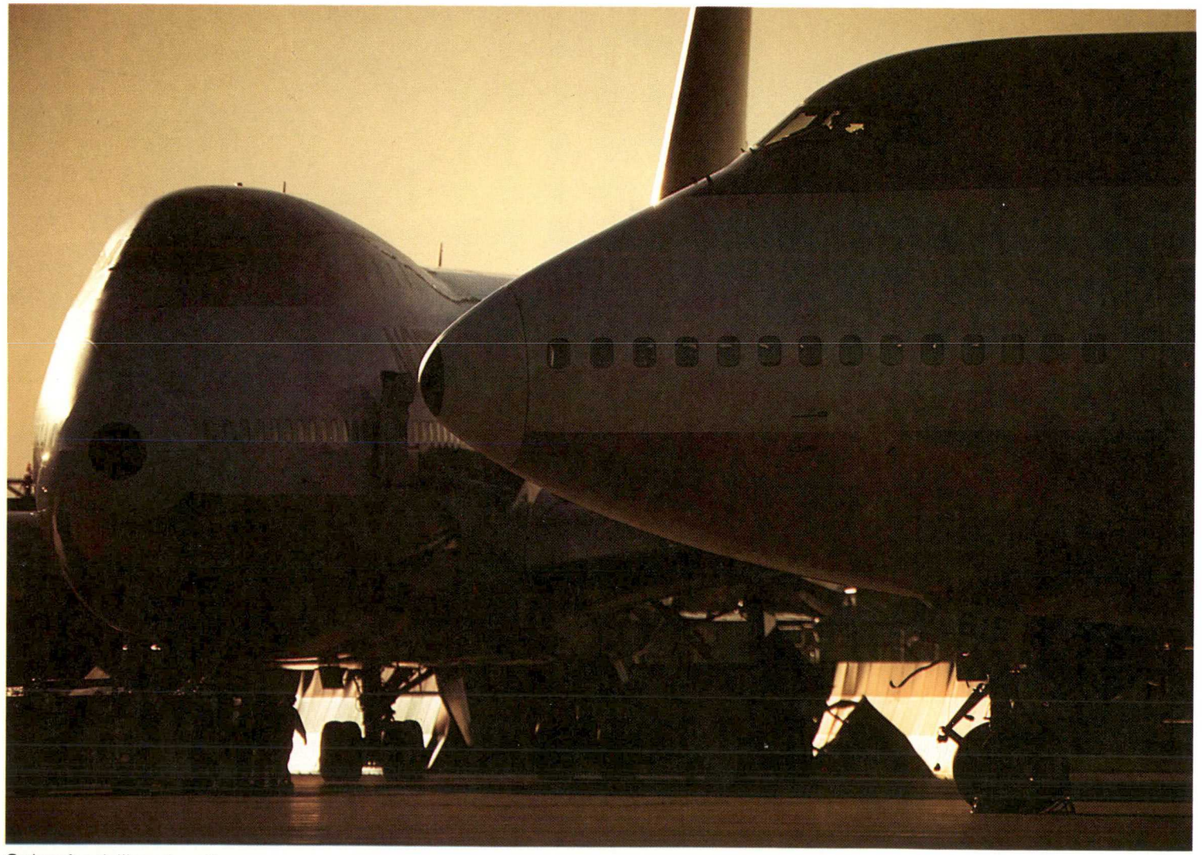
Aluminum is used for aircraft and space vehicles, automotive and marine applications, travel trailers and recreational vehicles, commercial automotive vehicles and cargo containers.

Alcoa shipments to the aerospace industry, which include aluminum sheet and plate, forgings, extrusions and castings, were up 34 percent in 1979 over 1978, as airlines replace older aircraft with quieter, more fuel-efficient planes. The current replacement programs combined with anticipated passenger growth are expected to add about 3,500 new civilian airplanes to the world's jet fleets during the 1980's.

Working together, The Boeing Company and Alcoa scientists developed a new series of high-strength, lightweight alloys for the new generation of jet transport planes. Alcoa began producing the new alloys in 1979.

Despite the slowdown in auto production and the shift to smaller cars in 1979, certain Alcoa products did well, specifically, forged wheels, aluminum castings and electrical wire harnesses.

The use of aluminum to save weight in commercial vehicles, such as heavy duty trucks, continued. Aluminum plays an important role in lightweighting vehicles to increase fuel efficiency. Shipments of aluminum truck wheels in 1979 exceeded all previous levels, and Alcoa forged aluminum wheels were introduced late in the year to the European truck market.



Orders for civilian aircraft accounted for the big surge in 1979 shipments to the aerospace industry, as airlines worldwide replace their aging fleets of jet aircraft.



# Consolidated Balance Sheet

| Aluminum Company of America and consolidated subsidiaries | (in millions, except share amounts) | |
|---|---|---|
| December 31 | **1979** | 1978 |
| **Assets** | | |
| Current assets: | | |
| Cash | **$ 50.6** | $ 34.6 |
| Short-term investments, at cost approximating market | **212.1** | 58.3 |
| Receivables from customers, less allowances: 1979, $3.9; 1978, $4.3 | **681.7** | 582.5 |
| Other receivables | **43.2** | 43.2 |
| Inventories (B) | **689.0** | 667.9 |
| Prepaid expenses and other assets | **30.0** | 7.4 |
| Total current assets | **1,706.6** | 1,393.9 |
| Investments (C and F) | **587.2** | 490.6 |
| Other assets and deferred charges: | | |
| Receivables and advances | **10.1** | 16.6 |
| Deferred charges | **88.5** | 101.5 |
| Total other assets and deferred charges | **98.6** | 118.1 |
| Properties, plants and equipment (D) | **2,318.9** | 2,164.6 |
| **Total assets** | **$4,711.3** | $4,167.2 |
| **Liabilities** | | |
| Current liabilities: | | |
| Accounts payable | **$ 339.1** | $ 287.2 |
| Accrued expenses | **214.3** | 148.9 |
| Taxes, including taxes on income | **277.7** | 203.3 |
| Long-term debt due within one year | **16.5** | 18.9 |
| Total current liabilities | **847.6** | 658.3 |
| Long-term debt, less amount due within one year (N) | **1,020.6** | 1,130.0 |
| Noncurrent liabilities | **56.2** | 42.3 |
| Deferred income | **8.9** | 7.3 |
| Deferred investment credit | **15.8** | 17.6 |
| Future taxes on income | **233.1** | 198.7 |
| | **2,182.2** | 2,054.2 |
| **Shareholders' equity** | | |
| Capital stock: | | |
| Serial preferred stock, par value $100, authorized 1,000,000 shares: $3.75 cumulative preferred stock, authorized 660,000 shares; issued and outstanding, 659,909 | **66.0** | 66.0 |
| Common stock, par value $1.00, authorized 50,000,000 shares; issued and outstanding: 1979—35,170,041; 1978—35,054,790 (G) | **35.2** | 35.1 |
| Additional capital (E) | **152.8** | 147.6 |
| Retained earnings (G) | **2,275.1** | 1,864.3 |
| Total shareholders' equity | **2,529.1** | 2,113.0 |
| **Total liabilities and shareholders' equity** | **$4,711.3** | $4,167.2 |

The accompanying notes are an integral part of the financial statements.

# Statement of Consolidated Income and Retained Earnings

| Aluminum Company of America and consolidated subsidiaries | (in millions, except share amounts) | |
|---|---|---|
| For the years ended December 31 | **1979** | 1978 |
| Sales and operating revenues (F) | **$4,785.6** | $4,051.8 |
| Other income | **61.4** | 20.7 |
| | **4,847.0** | 4,072.5 |
| Cost of goods sold and operating expenses | **3,452.9** | 2,976.3 |
| Selling, general administrative and other expenses | **305.9** | 276.1 |
| Provision for depreciation and depletion | **247.0** | 227.5 |
| Interest expense | **86.1** | 87.8 |
| Taxes (H) | **343.6** | 249.3 |
| | **4,435.5** | 3,817.0 |
| Income from operations (F) | **411.5** | 255.5 |
| Equity earnings from entities not consolidated (C): | | |
| Alcoa of Australia | **66.2** | 42.1 |
| Alcoa Properties, Inc. | **10.8** | 5.1 |
| Other entities owned 20 percent or more | **16.1** | 10.0 |
| | **93.1** | 57.2 |
| Net income | **504.6** | 312.7 |
| Retained earnings at beginning of year | **1,864.3** | 1,620.4 |
| | **2,368.9** | 1,933.1 |
| Less dividends declared (N): | | |
| Preferred stock—$3.75 per share | **2.5** | 2.5 |
| Common stock—per share: $2.60 in 1979; $1.90 in 1978 | **91.3** | 66.3 |
| | **93.8** | 68.8 |
| Retained earnings at end of year (G) | **$2,275.1** | $1,864.3 |
| Earnings per common share (J): | | |
| Primary | **$14.29** | $8.90 |
| Fully diluted | **13.60** | 8.49 |

The accompanying notes are an integral part of the financial statements.



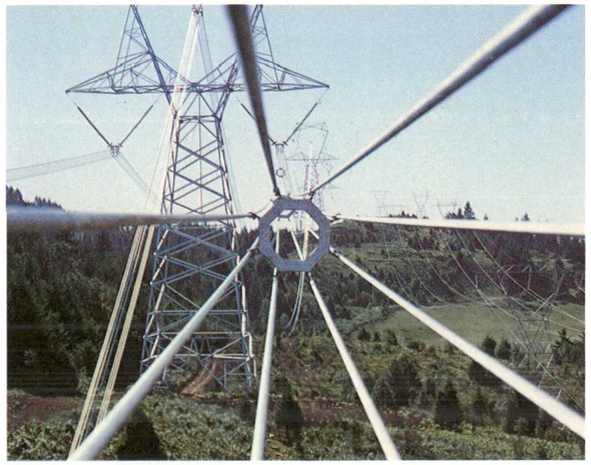
**Electrical** Primary uses of aluminum in the electrical market are for conductor and accessories. Additional applications are in transmission and distribution equipment, communication equipment, and lighting fixtures and light bulb bases.

Electrical conductor sales by Alcoa Conductor Products Company (ACPC) improved dramatically compared with the past several years, and shipments from the Alcoa plants at Marshall, Tex., Massena, N.Y., and Vancouver, Wash., were 18 percent higher than in 1978.

The expansion of electrical power distribution, particularly in developing countries, led to increased demand for overhead conductor and accessories. During 1979, Alcoa supplied both electrical products and technological expertise in 42 countries.

ACPC is the largest U.S. manufacturer of the aluminum accessories that connect electrical transmission cables and keep them stable during wind storms. One-third of the company's electrical research and development budget is devoted to developing new-generation accessories. The company also is building a base of technology in insulating materials for future growth and profitability.

ACPC estimates that by the year 2000, about one-half of U.S. energy requirements will be met by electricity compared with the current 25 percent.



Aluminum shipments from Alcoa to the electrical industry worldwide were up significantly over 1978. "Bundled" conductor such as this increases current-carrying capacity; the spacer devices used to position the conductor are among the accessory products shipped by Alcoa in volume.

**Building and Construction** The building and construction market uses aluminum in residential, commercial, industrial, farm and highway applications. Aluminum building products include windows, doors, gutters, downspouts, siding, soffit and fascia, curtain wall, agricultural and industrial roofing, lighting standards, highway guardrails and street barriers.

Alcoa does not participate heavily in these markets, which require common alloy aluminum products and most of which are highly vulnerable to economic cycles. One exception is residential building products, where Alcoa continues to be a major supplier of components, particularly for remodeling. The need to renovate and repair existing homes provided demand for these products in 1979, while demand for aluminum building products in new housing was adversely affected by the decline in housing starts.

**Other Markets** This category includes markets for alumina chemicals and aluminum powders and pigments, both of which have been growing contributors to Alcoa's revenues. Sales to the independent Alcoa distributor network also are accounted for here, as are the revenues from oil and gas and from transportation subsidiaries.

This historic home in Bay City, Mich., looks as fresh and new today as it did when it was built in 1895. Smooth, white Alcoa aluminum siding was installed to restore the authentic Colonial appearance of the house and to reduce maintenance costs.

# Equity Investments

Income from Alcoa's growing equity investments contributed $93.1 million to the company's net income in 1979.

*Alcoa of Australia* (AA) began construction on its third bauxite refinery, near Wagerup, in Western Australia. Production is scheduled to begin in 1982 with an initial capacity of 551,000 tons a year. AA also began constructing a third potline at Point Henry, Victoria, that is scheduled for completion late in 1980, and announced its second smelter, which will be built at Portland, Victoria. Estimated future expenditures to complete these programs are $800 million. AA arranged to borrow up to $570 million from Australian, European, Canadian and U.S. institutions; requirements above this amount will be covered by AA's internally generated funds.

*Alcoa of Great Britain* is concentrating its financial and managerial resources on the new light-gauge sheet mill near Swansea, Wales. The company sold two subsidiaries, Alcoa Foils Ltd. and Bayswater Tubes and Sections Ltd., and will discontinue operating Alcoa Building Systems.

*Alcoa Nederland's* capital projects included installation of a remelt furnace and a coil conversion coating line to enable the company to compete more effectively in the sale of aluminum sheet for beverage and pharmaceutical caps.

*Alcoa Properties* continued development of Jonathan's Landing, the 600-acre residential waterfront community in Jupiter, Fla., near West Palm Beach. Two parcels of land in the Century City real estate development in Los Angeles, Calif. were sold. Most of the work on the $5.7 million renovation of the William Penn Hotel in Pittsburgh was completed in 1979.

*Companhia Mineira de Aluminio-Alcominas,* a mine-to-metal primary aluminum producer in Brazil, in the first quarter of 1979 began operating 30,000 tons of new primary capacity at its Poços de Caldas, Minas Gerais, smelter.

*Shibazaki Seisakusho,* a Japanese company that manufactures aluminum bottle closures and cans, became a subsidiary when Alcoa acquired a 50.5 percent interest in the firm. Shibazaki has the second largest sales of closures in Japan.

With the Western Australian Forests Department, Alcoa of Australia (AA) has replanted more than one million trees, including the indigenous jarrah tree (center). Joseph C. Bates (left), Alcoa executive vice president and a director of AA, inspects a reforested mine area with George T. Haymaker, Jr., AA managing director and an Alcoa vice president.

On this 600-acre site, located 20 miles north of West Palm Beach, Fla., Alcoa Properties is developing the residential waterfront community of Jonathan's Landing. Plans provide for 26 residential clusters, with most homes at the water's edge or on one of the fairways of the 18-hole golf course.



**Report of management to the shareholders of Alcoa**

The accompanying financial statements of Aluminum Company of America and consolidated subsidiaries were prepared by management, which is responsible for their integrity and objectivity. The statements were prepared in accordance with generally accepted accounting principles and include amounts that are based on management's best judgments and estimates. The other financial information included in this annual report is consistent with that in the financial statements.

The company maintains a system of internal controls, including accounting controls, and a strong program of internal auditing. The system of controls provides for appropriate division of responsibility and the application of policies and procedures that are consistent with high standards of accounting and administration. The company believes that its system of internal controls provides reasonable assurance that assets are safeguarded against losses from unauthorized use or disposition and that financial records are reliable for use in preparing financial statements.

The Audit Committee of the Board of Directors, composed solely of directors who are not officers or employees, meets regularly with management, with the company's internal auditors, and with its independent certified public accountants, to discuss their evaluation of internal accounting controls and the quality of financial reporting. The independent auditors and the internal auditors have free access to the Audit Committee, without management's presence, to discuss the results of their audits.

Management also recognizes its responsibility for conducting the company's affairs according to the highest standards of personal and corporate conduct. This responsibility is characterized and reflected in key policy statements issued from time to time regarding, among other things, conduct of its business activities within the laws of the host countries in which the company operates and potentially conflicting outside business interests of its employees. The company maintains a systematic program to assess compliance with these policies.

W. H. Krome George
Chairman of the Board
and Chief Executive Officer

James S. Pasman, Jr.
Executive Vice President—
Finance

**The OECD declaration and guidelines**

The Organization for Economic Cooperation and Development, consisting of 24 industrial countries including the United States, issued, in 1976, a *Declaration on International Investment and Multinational Enterprises* and an accompanying set of *Guidelines for Multinational Enterprises*.

Alcoa believes the Declaration and Guidelines provide a constructive framework within which the international business community and host governments can work together toward economic growth and social progress.

Alcoa fully supports the OECD Declaration. The company's policies and practices are consistent with the OECD Guidelines.

**Independent auditors' report**

To the Shareholders and
Board of Directors
Aluminum Company of America

We have examined the consolidated balance sheets of Aluminum Company of America and consolidated subsidiaries as of December 31, 1979 and 1978 and the related statements of consolidated income and retained earnings and changes in consolidated financial position for the years then ended. Our examinations were made in accordance with generally accepted auditing standards and, accordingly, included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the aforementioned financial statements present fairly the consolidated financial position of Aluminum Company of America and consolidated subsidiaries at December 31, 1979 and 1978 and the results of their consolidated operations and changes in their consolidated financial position for the years then ended, in conformity with generally accepted accounting principles applied on a consistent basis.

In addition, we have read the financial information included in the Financial highlights on the first page and in the Historical summary under the captions, "Earnings," "Financial position" and "Share data" on pages 30 and 31 and the segment and geographic information for 1977 included in Note F on page 25 of this annual report, have compared it to data taken from the audited financial statements, subjected it to audit procedures, and verified its mathematical accuracy. In our opinion, such data is fairly stated in relation to the audited financial statements taken as a whole.

Coopers & Lybrand

Pittsburgh, PA
January 18, 1980

# Financial Review

(in millions of dollars, except share amounts)

of approximately $40, principally in the United Kingdom, it is expected that repayments of loans to the company in 1980 from such entities will be $6.

During 1979 the company's investment in Alcoa Properties, Inc. (API) was reduced by a distribution of $10.5. All of API's 1979 cash requirements were met with funds generated by operating properties and property sales. API's requirements for 1980 for commercial and residential construction are projected to be $30 and property sales are expected to provide funds in excess of this amount.

### Income and operating taxes

Total income and operating taxes for 1979 and 1978 were $590.1 and $448.1, respectively, and consist of amounts shown in the table below:

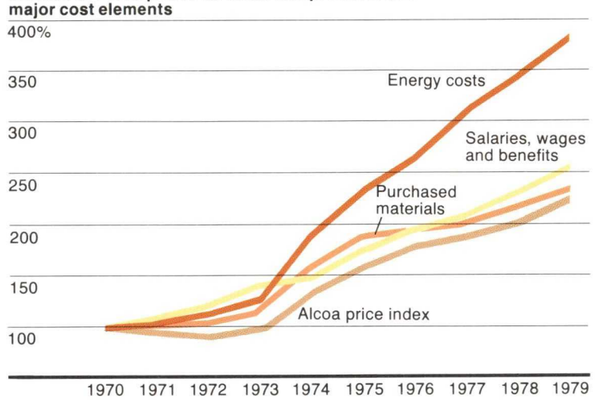
| | 1979 | 1978 |
|---|---|---|
| Provision for U.S. and foreign taxes on income | $270.2 | $189.0 |
| Payroll taxes | 64.1 | 52.5 |
| Severance taxes on minerals | 51.8 | 48.6 |
| Ad valorem taxes | 23.8 | 24.1 |
| Other taxes | 49.6 | 36.2 |
| Total—consolidated companies | 459.5 | 350.4 |
| Pro-rata share of taxes accrued by equity companies* | 130.6 | 97.7 |
| Total tax cost | $590.1 | $448.1 |
| Overall tax rate (total taxes as a percent of net income plus total taxes) | 53.9% | 58.9% |

*Including taxes of equity companies accounted for in cost of goods sold.

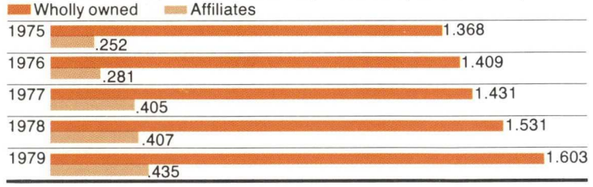
### Comparison of Aluminum prices and costs

The accompanying chart compares changes since 1970 in Alcoa's prices for basic mill products with the changes in the company's costs in three major categories: energy, purchased materials, and salaries, wages and benefits. These cost elements amount to about 66 percent of Alcoa's total 1979 revenues. Each has escalated faster than the company's price index on basic mill products, which represent 68 percent of total 1979 revenues. By improving the efficiency and productivity of operations, and by upgrading the product mix, these negative cost developments were partially offset.

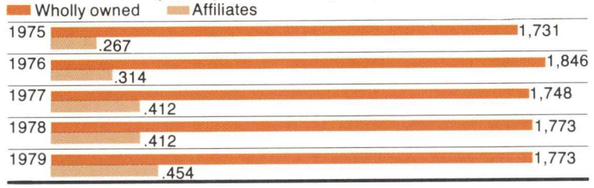
**Indexes of Alcoa prices for basic mill products and major cost elements**




**Alcoa's worldwide primary aluminum production** (millions of tons)




**Alcoa's worldwide primary aluminum capacity** (millions of tons)




### Quarterly data (unaudited)*

(in millions, except share amounts)

| | 1979 | | | | | 1978 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | First | Second | Third | Fourth | Year | First | Second | Third | Fourth | Year |
| Sales and operating revenues | $1,204.9 | $1,178.8 | $1,172.2 | $1,229.7 | $4,785.6 | $938.1 | $1,013.9 | $1,016.5 | $1,083.3 | $4,051.8 |
| Income from operations | 112.2 | 117.5 | 85.7 | 96.1 | 411.5 | 43.5 | 61.8 | 62.9 | 87.3 | 255.5 |
| Net income | 127.7 | 134.4 | 107.4 | 135.1 | 504.6 | 53.9 | 74.7 | 83.8 | 100.3 | 312.7 |
| Earnings per common share | | | | | | | | | | |
| Primary | 3.62 | 3.81 | 3.04 | 3.82 | 14.29 | 1.53 | 2.13 | 2.39 | 2.85 | 8.90 |
| Fully diluted | 3.44 | 3.62 | 2.89 | 3.65 | 13.60 | 1.47 | 2.03 | 2.27 | 2.72 | 8.49 |

*In the opinion of the company, the quarterly data includes all adjustments necessary for a fair statement of results of the periods presented.



# Financial Review

(in millions of dollars, except share amounts; tons in thousands)

| Income summary | 1979 | 1978 | 1977 |
|---|---|---|---|
| Sales and operating revenues | $4,785.6 | $4,051.8 | $3,416.5 |
| Income from operations | 411.5 | 255.5 | 156.6 |
| Equity earnings | 93.1 | 57.2 | 38.6 |
| Net income | 504.6 | 312.7 | 195.2 |
| Return on average invested capital | 16.2% | 11.4% | 8.2% |
| Return on average shareholders' equity | 21.7% | 15.8% | 11.0% |
| Primary aluminum production (in tons) | 1,603 | 1,531 | 1,431 |
| Aluminum shipments (in tons) | 1,886 | 1,779 | 1,688 |

### 1979 compared with 1978

Demand for aluminum products during 1979 was particularly strong in the aerospace and container markets, and from the network of independent distributors. Electrical conductor products showed strength as did primary aluminum ingot. Sales of alumina chemicals were improved.

Demand for common alloy aluminum products, a declining portion of Alcoa's product mix, grew softer through the year, especially in the transportation and building and construction markets. However, aluminum materials for home remodeling and renovation supplied by the building products group helped offset this weakness for Alcoa.

Included in 1979 net income is the profit of $12.3 on the sale of Interway Corporation stock and a gain of $10.7 from the sale of two land parcels in the Century City real estate development.

Sales and operating revenues for 1979 increased by 18 percent over 1978 principally due to improved prices and product mix and a six percent increase in aluminum shipments.

Other income for 1979 was $61 compared with $21 for 1978. The sale of the Interway stock and increased income from securities and investments and profits on debentures repurchased were the principal reasons for the increase.

Cost of goods sold for 1979 increased by 16 percent over 1978. Higher volume plus higher costs for wages and benefits, repairs and maintenance, energy and purchased materials were the major factors contributing to the increase.

Selling, general administrative and other expenses increased by 11 percent over 1978, principally due to higher salaries and benefits and advertising expense.

The significant increase in U.S. and foreign taxes on income reflected the increased level of income. This increase was partially offset by higher investment credit, and a decrease in the U.S. statutory rate from 48 percent in 1978 to 46 percent in 1979. The effective tax rate for 1979 was 39.6 percent compared with 42.5 percent for 1978. Other taxes increased by 22 percent over 1978, principally due to state and local income taxes associated with higher levels of income, and sales and use taxes associated with higher capital expenditures.

Equity earnings from Alcoa of Australia for 1979 increased 57 percent over 1978. Higher shipments of alumina and aluminum and improved operating efficiencies, which offset substantial cost increases, were the principal reasons for the increase.

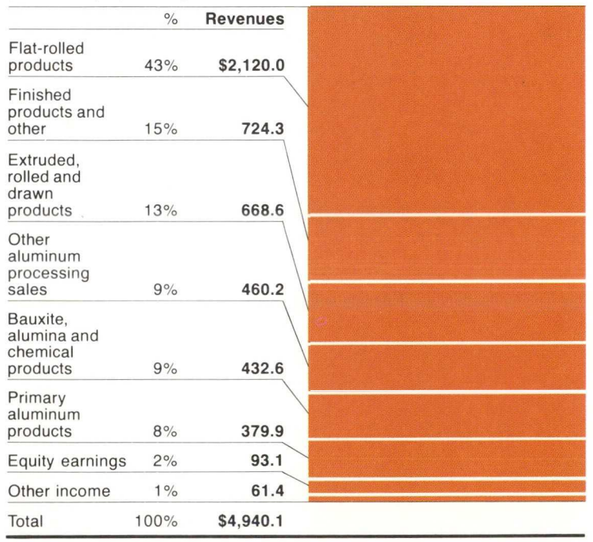
Equity earnings from real estate developments more than doubled to $10.8 from $5.1 in 1978, principally due to the gain on the land parcels mentioned earlier and from improvements in operations over 1978.

Other equity earnings for 1979 totaled $16.1 against $10.0 in 1978. Improved prices, higher shipments, favorable exchange adjustments and increased equity income resulting from an additional equity interest in a Japanese company were the reasons for the favorable increase. However, these increases were significantly offset by the losses sustained in bringing Alcoa of Great Britain's sheet mill into operation.

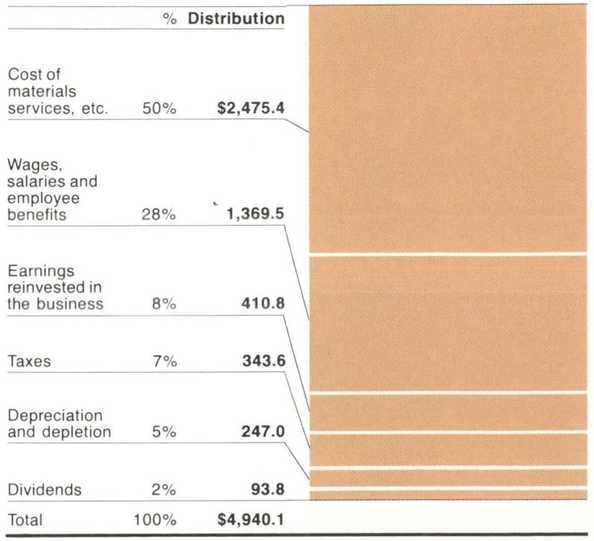
For details on foreign currency, see Note M.

Expenditures for research and development were $57.9 and $56.6 for 1979 and 1978, respectively.

**Sources of 1979 revenues** (millions)
(includes equity earnings from entities not consolidated)




**Distribution of 1979 revenues** (millions)
(includes equity earnings from entities not consolidated)



# Financial Review

(in millions of dollars, except share amounts)

**1978 compared with 1977**

The company enjoyed a fourth quarter shipment level that was the strongest of the year. This enabled better absorption of period costs which, coupled with improved cost/price relationships on the company's major product lines, improved operating income.

In the fourth quarter the company modified its method of accounting for oil and gas activities to fully conform to the Financial Accounting Standards Board's Statement No. 19. Fourth quarter and 1978 net income were increased by $8.2, or 24 cents a common share, representing the effect of this change for years prior to 1978. The change was not applied retroactively because of its immateriality.

Consolidated sales and operating revenues in 1978 were 19 percent higher than in 1977, reflecting the improvement in prices and product mix. Cost of goods sold increased by 15 percent from 1977. Higher labor, purchased materials and energy costs, as well as a more costly product mix, were the principal reasons for the increase.

Selling, general administrative and other expenses increased by 15 percent over 1977. Higher salary and benefit costs, a contribution to Alcoa Foundation, higher commissions attributable to the level of activity and increased advertising expenses accounted for the increase.

The increase in depreciation expense is related to the company's increased capital expenditure program.

The effective tax rate for 1978 was 42.5 percent compared with 38.3 percent for 1977. The significant increase in U.S. and foreign taxes on income reflected the increased level of income which was taxed at the statutory rate. The increase in other taxes relates principally to sales and use taxes associated with the higher level of purchases.

Other income was up 24 percent over 1977, principally due to increased income from short-term marketable securities and gains on sales of capital assets.

**Research and development expenditures** (millions)


Foreign currency losses included in 1978 and 1977 net income were $3.7 and $7.2, respectively.

Alcoa's share of equity earnings from Alcoa of Australia showed a 29 percent increase over 1977. Improved prices offset a slight decline in shipments, resulting in improved revenues. Alcoa's share, after tax, of foreign currency gains was $.4 compared with losses of $3.6 in 1977.

Equity earnings from real estate developments were $5.1 in 1978 compared with a loss of $11.1 in 1977. Net gains on the sale of properties in West Los Angeles and New York City accounted for a significant portion of the increase. Increased occupancy and improved operations at the joint venture complex in West Los Angeles, as well as better operating performance at other locations, account for the decline in operating losses from the previous year.

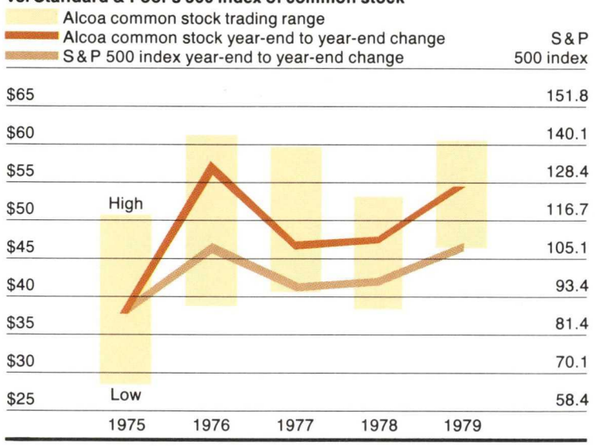
Other equity earnings declined $7.1 from 1977. Start-up expenses at the new rolling mill facilities of Alcoa of Great Britain, near Swansea, Wales were the principal reason for the decline.

Expenditures for research and development were $56.6 and $52.0 for 1978 and 1977, respectively.

**Return on investment**

The company's rate of return on average invested capital (net income plus interest expense after tax divided by the sum of average shareholders' equity and average noncurrent long-term debt) rose to 16.2 percent in 1979 from 11.4 percent in 1978. Return on average shareholders' equity (net income divided by average shareholders' equity) also improved, rising to 21.7 percent in 1979 from 15.8 percent in 1978. These levels of returns are required in the current inflationary environment to make the capital expenditures necessary to sustain future growth.

**Trading range of Alcoa common stock and year-end closing price vs. Standard & Poor's 500 index of common stock**

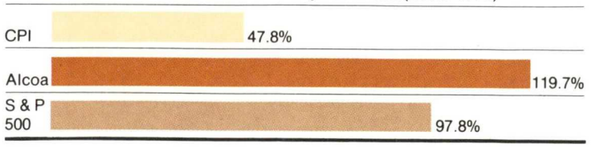



**Dividends and stock prices**

The quarterly dividends were increased twice in 1979. The Board of Directors increased the quarterly dividend on common stock from 50 cents a common share to 60 cents in January and to 70 cents in July. On January 17, 1980, the Board increased the quarterly dividend to 80 cents, payable February 25, 1980, to shareholders of record at the close of business on February 1, 1980.

The following chart illustrates that the compounded total return (dividends and appreciation) on Alcoa common stock from the beginning of 1975 through 1979 has outperformed the total return of the Standard and Poor's 500 index and is two and one half times greater than the change in the Consumer Price Index for the same period.

**Comparison of total return of Alcoa common stock to Standard & Poor's 500 stock index and consumer price index** (Since 1975)






Common stock prices and dividends paid per common share were as follows:

| Quarter | Stock prices 1979 High | 1979 Low | 1978 High | 1978 Low | Dividends paid per common share 1979 | 1978 |
|---|---|---|---|---|---|---|
| First | $56.375 | $46.50 | $46.50 | $38.50 | $ .60 | $ .45 |
| Second | 56.75 | 51.00 | 49.375 | 38.625 | .60 | .45 |
| Third | 60.50 | 50.50 | 49.75 | 40.50 | .70 | .50 |
| Fourth | 60.25 | 48.375 | 53.00 | 43.625 | .70 | .50 |
| Year | 60.50 | 46.50 | 53.00 | 38.50 | 2.60 | 1.90 |

**Capital structure**

Alcoa's capital structure was further strengthened, with debt as a percent of invested capital declining to 29.1 percent at the end of 1979 from 44.7 percent at the end of 1975. Over the last five years long-term debt increased $74.0, principally from tax-exempt financings for pollution and environmental controls.

The company retired, principally through market purchases, $100.5 of debentures during 1979, and has satisfied mandatory sinking fund requirements through 1980, except for a small amount of the 5¼% convertible debentures.

In early 1979, the company entered into a $250 bank credit agreement with a group of eighteen banks. The agreement provides for a revolving line of credit for a period of five years, after which borrowings under the agreement can be converted to a four-year term loan payable in equal quarterly installments. Amounts borrowed during the revolving period may be repaid and reborrowed and the total commitment may be reduced or canceled by the company at its option.

In addition, the company maintains lines of credit with several banks totaling $50. The company also has the capability to issue commercial paper for which it currently has P1/A1 ratings.

**Capital expenditures and investments**

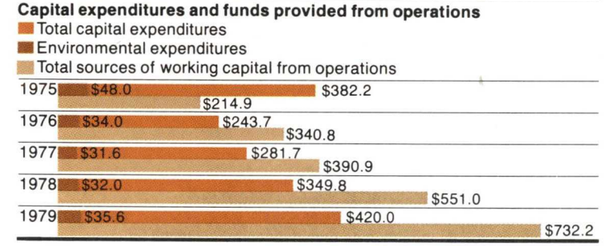
Capital expenditures over the last few years have been provided for principally from internally generated funds. Since the beginning of 1975, Alcoa has generated $2.2 billion from operations and spent $1.7 billion for capital expenditures.

Expenditures for properties, plants and equipment for 1979 were $420.0, up 20 percent from the $349.8 in 1978. Contributing to the increase were flat-rolled products expansion projects under way at Alcoa, Tenn.; Davenport, Iowa; and Lebanon, Pa.; and the initiation of an extensive modernization of the alumina production facility at Mobile, Ala. The expansion of Texas lignite mining facilities continued and new strip casting facilities at Badin, N.C., were near start-up at year-end. Emphasis on productivity, capacity sustaining and environmental programs continued at most locations, as well as on the company's aluminum-can recycling facilities expansion.

Capital expenditures for 1980 are projected to be $630 and include continuation of the Davenport, Lebanon and Mobile projects, the Texas lignite mining facilities, new projects to sustain and increase alumina capacity and improve smelting capability at Point Comfort, Tex., and initiation of improvements to the company's shipping fleet.

Investments (both equity and loan funds in foreign entities not wholly owned) increased $40 in 1979. Although present indications are that the company will make investments in 1980

**Capital expenditures and funds provided from operations**




**Long-term debt at December 31, 1979**

| (millions) | Due: 1980 | 1981 | 1982 | 1983 | 1984 | 1985-2008 | Total |
|---|---|---|---|---|---|---|---|
| Sinking fund debentures: | | | | | | | |
| 4¼% due 1982 | — | $ 5.1 | $ 5.4 | — | — | — | $ 10.5 |
| 3⅞% due 1983 | — | — | 5.1 | $ 5.4 | — | — | 10.5 |
| 6% due 1992 | — | — | — | — | — | $ 55.0 | 55.0 |
| 9% due 1995 | — | — | — | 10.0 | $ 10.0 | 110.0 | 130.0 |
| 7.45% due 1996 | — | — | — | — | 6.7 | 120.0 | 126.7 |
| 9.45% due 2000 | — | — | — | — | — | 150.0 | 150.0 |
| Notes: | | | | | | | |
| 4⅜% due 1988 | $ 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 12.8 | 29.3 |
| 4.65% due 1989 | 7.2 | 7.2 | 7.2 | 7.2 | 7.2 | 34.2 | 70.2 |
| 6% due 1986-1989 | 2.9 | 3.0 | 3.2 | 3.4 | 3.6 | 14.0 | 30.1 |
| 9¾% due 1995 | — | 6.7 | 6.7 | 6.7 | 6.7 | 73.2 | 100.0 |
| 8¼% due 2002 | — | — | — | 7.5 | 7.5 | 135.0 | 150.0 |
| Convertible subordinated debentures 5¼% due 1991 | .4 | 6.2 | 6.2 | 6.2 | 6.2 | 75.2 | 100.4 |
| Tax-exempt revenue bonds | .8 | .8 | .8 | .8 | .8 | 53.8 | 57.8 |
| Other | 1.9 | 4.0 | 1.8 | 1.5 | 1.4 | 6.0 | 16.6 |
| | $16.5 | $36.3 | $39.7 | $52.0 | $53.4 | $839.2 | 1,037.1 |
| Less, amount due within one year included in current liabilities | | | | | | | 16.5 |
| Noncurrent long-term debt | | | | | | | $1,020.6 |